

THIS MONTH: SHAREWARE INDUSTRY AWARDS September 1992

BOARDWATCH

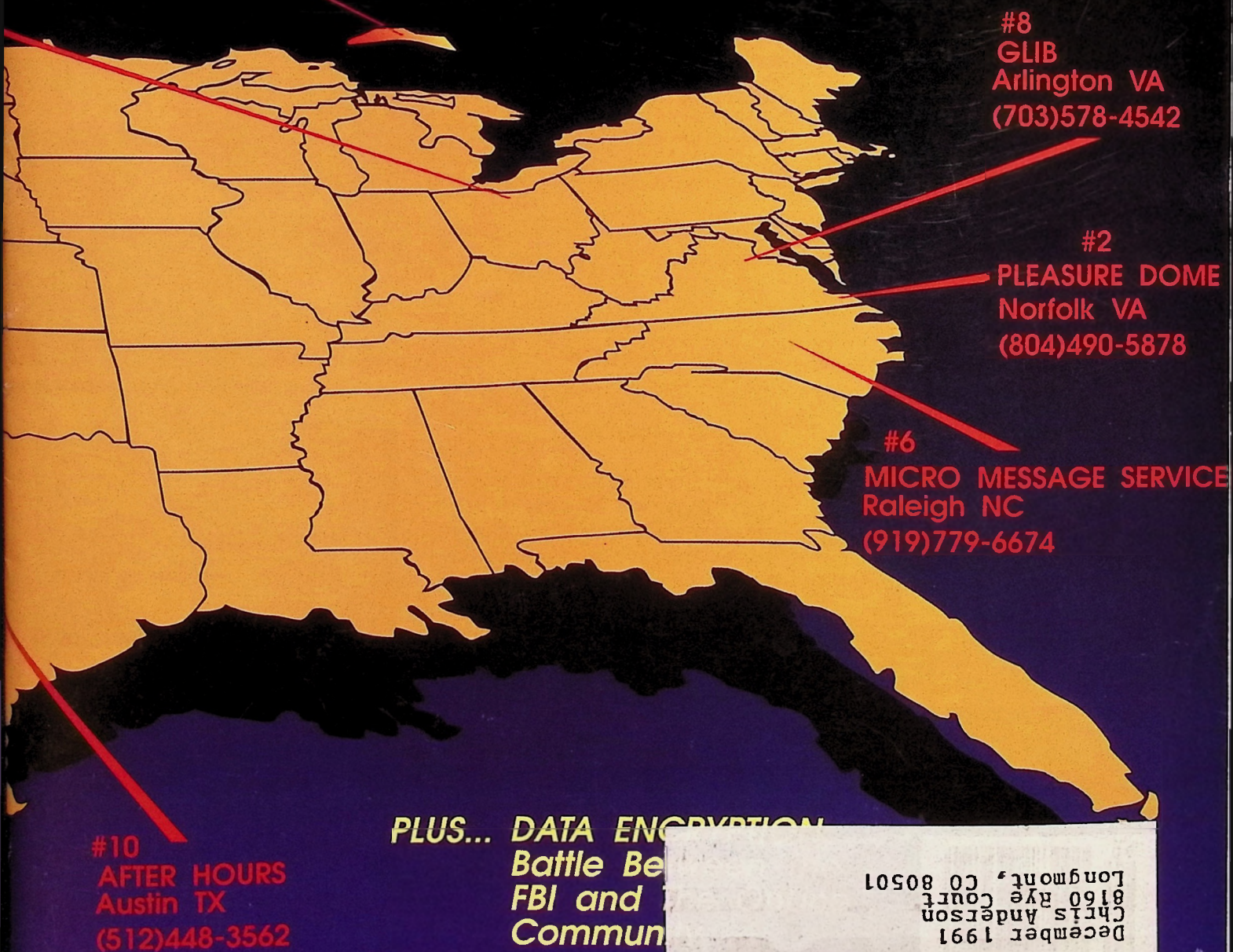
MAGAZINE

Guide to Online Information Services and Electronic Bulletin Boards

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BOARDWATCH 100 READERS CHOICE

BBS CONTEST



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NewsBytes



Nov 09, 1991

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- Issues & Debate
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- Telecommunications
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Discussion: System

Topic: Introductions

List of Notes

#	Date	Title	Replies
1	7/14/90	Welcome!	(3)
2	8/4/90	Hello from Atlanta	(0)
3	8/4/90	Moosa Excellent System "o.o"	(0)
4	8/21/90	Hello from Salem, Oregon	(0)
5	8/22/90	Greeting from Ian Digg	(1)
6	8/31/90	It's Snowing Around!	(0)
7	9/2/90	Tashi Dink from Tibet/Hai North	(0)
8	9/6/90	Iowa enthusing from Montreal	(0)
9	9/19/90	Howdy from Vancouver, BC, Canada	(1)
10	10/10/90	Atlick B. from L.A. Calif.	(4)
11	10/12/90	Industrial Education	(0)
12	11/24/90	Wello from Brighton, Rich	(0)
13	12/5/90	Yello from Beautiful Hackensack, NJ	(0)
14	12/6/90	Wello from the "other" Washington	(3)
15	1/19/91	Hi there	(0)
16	2/19/91	Hi there	(1)
17	3/28/91	Hi there	(1)
18	4/11/91	Greetings from Pebber Brown in Island, CA	(0)
19	4/30/91	4GL programmers	(0)
20	5/6/91	More Questions!	(0)
21	5/14/91	General Questions from DAK's Online Resource Cent	(2)

New Note

Online Digital Music Review

Issue date: Oct 31, 1991

Selections

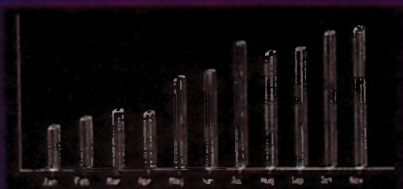
Welcome to the O.D.M.R.
How to use O.D.M.R.
Next Issue

- Jazz and New Age reviews
- Light Rock reviews
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- Hard Rock review
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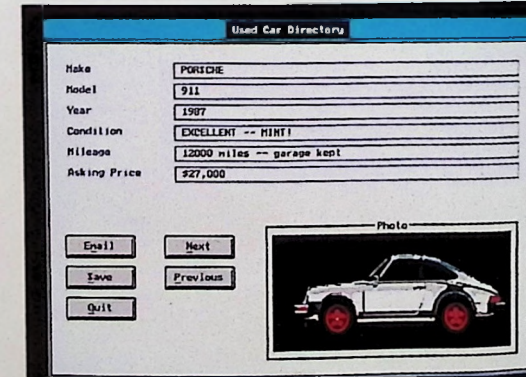
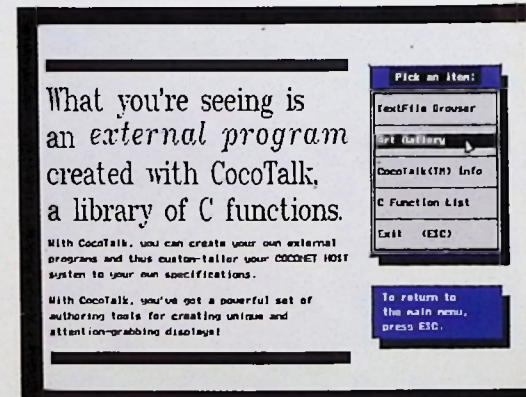
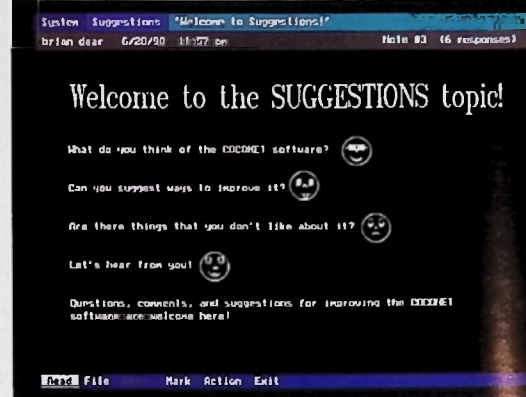
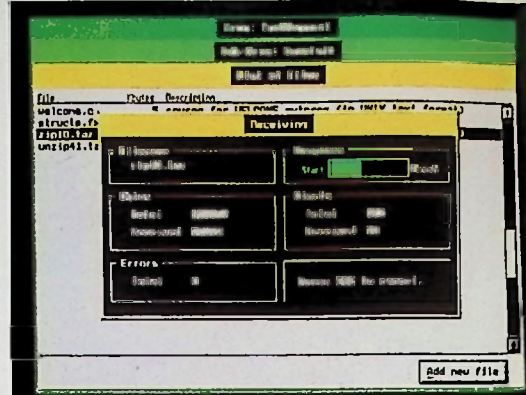
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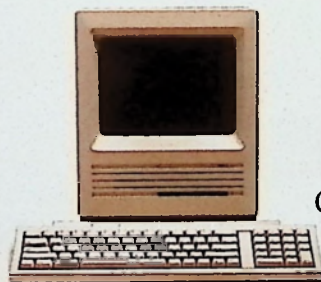


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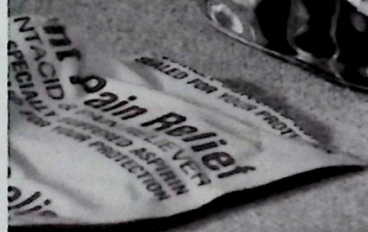
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September 10, 1991
PCBoard, Version 14.5

September, 1992

BOARDWATCH MAGAZINE

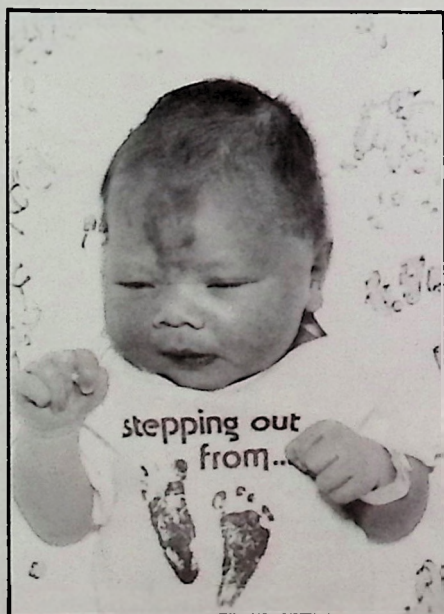
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EDITOR'S NOTES

This is the September issue of Boardwatch Magazine. Note that you did not "miss" getting an August issue. This is precisely the issue that would have been the August issue, shipped on the same date we always would have shipped the August issue, but we have decreed, in a blazing fit of irrational logic, that it is verily and well the September issue. I'm told we can do that.

It's not actually quite that cavalier. Boardwatch is continuing a growth curve probably a bit beyond what I'm comfortable with. But we've received a lot of complaints that readers can't seem to locate a copy on the local newsstand when they want it. As part of expanding this retail distribution, we added a distributor who wanted a cover date slip so that they can put the September issue of Boardwatch on the newsstands August 11. Why anyone would want to do that is a little beyond my meager tools of logic, but it's easier to paint September on the cover than to argue much about it. We'll of course extend all of our subscribers' last issue date by a month to compensate for this publishing faux pas. You won't miss a page and it won't even be late. If you can get used to the idea of September starting sometime late in July, I can live with it as well.



Marion Jack Rickard III

It would appear this is the "awards" issue. There are now some 70,000 active shareware programs stored on electronic bulletin boards - some of which have most of them online. I have trouble developing a mental image of more than seven elements without grouping things so I'm not sure I know what 70,000 of anything really looks like. The Shareware Industry Awards present a group of forty or so programs that seem to collectively form a very nice picture of what shareware means and we thought presenting the whole collection of nominees worthwhile.

This is also the issue where we announce the winners of the Boardwatch 100 Reader's Choice BBS contest. Handling slightly over 11,000 ballots was a bit gruesome. Verifying the 100 winners was a bit of a chore as well. And I'm not certain the results really represent the BBS world accurately. But it is a done thing, and the winners are presented in these pages for your consideration. The contest was popular enough that we'll do it again next year. We're actually planning on adding a "judged" series of categories in addition to the balloted contest. We'll be forming a panel over the next few months to begin the process.

Our June editorial on THE VISION THING lamented the lack of vision and leadership in developing a national data highway. We've heard from people across the country on this. And there have been several announcements indicating progress on the concept of a National Data Highway. Most notably, Senator Albert Gore has introduced the The Information Infrastructure and Technology Act of 1992 as of July 1. Recall that Gore had originally introduced legislation as early as 1988 calling for a national network. Originally the National Research and Education Network (NREN), it was finally passed last December as a somewhat revised High Performance Computing Act.

Apparently, Gore was not satisfied with the treatment K-12 education and the rest of the general population received in the final law. So he's introducing it again as The Information Infrastructure and Technology Act of 1992, again spelling out network access for K-12 education, manufacturing, and the health care system. He's been at this

four years. And I assumed he had tired of it after such a long battle. Here he is again with ANOTHER version of it - to start the whole long process of getting it passed again. "You guys don't get it? Well, here it is again." And I've got the feeling that if this is passed, and the inevitable crowd of nay-sayers, bureacrats, quibblers, and fortune hunters water this down, he'll be back with another version. He has a vision of this little girl in Tennessee accessing the entire Library of Congress on her computer. And he's not letting go of it.

When I was ten years old, I joined a competitive swimming team in our little Southeast Missouri town. I wasn't a particularly good swimmer, and competitive swimming is physically about the most demanding sport you can engage in - aside from the fact that it seems to entirely revolve around the time 5:00 AM in the morning. But somehow I survived on the team and gradually earned a place. Each morning was a fight to get the bed off my back. Normally I would decide to quit on Monday and Tuesday. By Wednesday, I figured I would just continue through the Saturday meet and then that would be it. It went on that way for years.

In those days, competitive swimming was done by age groups with classes for 8 and under, 10-12, 13-14, and 15-17 year-old competition. The team had about 80 people on it I would guess. We would swim against other teams across Southeast Missouri, Southern Illinois, Kentucky, and occasionally Arkansas. The swim meets went on all day, sometimes all weekend with various events - breast stroke, back stroke, freestyle, individual medley, relays, etc.

Our team would struggle along through the younger age groups. But toward the end of the day, the 13-14 year old swimmers would take their turn and finally the 15-17 year olds. We had several strapping big kids who, to me, at age 10, looked like comic book heroes. They didn't dive off the blocks to start a race. They FLEW off in mighty outward leaps with their arms outstretched looking just like Superman flying through the air - landing in the water with the sound of thunder and stroking across the pool in a powerful churn of water. They were fighters. They never quit. They always came from behind against the

proverbial impossible odds - finally demolishing any hope the other teams had of winning that day. And they stood glistening and bronzed in the sun basking in victory. They had won - actually we had all won.

Season by season, each summer we plowed through miles of water in training. And thundered across swimming pools all over the state. Our coaches, mostly from the college track team for some reason, read stories of East Germans swimming 10,000 meters daily in training. Into the pool - 10,000 meters. They read trade magazines on various floating, wave-dampening lane markers. Got to have em. We held a ridiculous fund raiser by swimming a 50 mile relay - 10 of us, to establish the Missouri State record for the 50 mile relay. We were all sick for days. We were the first to have ever attempted it. I don't think anyone else afterward was so foolish as to do it again. It took 22 hours. It was horrible. A nightmare. But we did it.

As the years went by, one by one the "big kids" went off to college, took jobs in the community, got involved with football, or whatever. Each season, a few more dropped out. One day, at about age 16, it dawned on me that the swimming wasn't any fun any more. I told my father I was thinking of quitting the team. When he asked why, I told him that "it just wasn't the same anymore - all the big kids were gone."

He erupted like Mt. St. Helens - doubled over roaring with laughter. As forlorn as I was about the whole thing I couldn't imagine why he found this so funny. But he snotted and cried and belly whooped for five minutes or more just beside himself with the mirth of it all. "What? What's so damn funny?", I asked. Off he went into another spasm.

Regaining himself, he started wiping the tears of laughter from his eyes and blowing his nose and finally, "You ARE the big kids son. That's how it goes."

What a thought. We WERE the big kids. That's why there weren't any.

As it turns out, we had a great season. Actually competed in a couple of national events. We set a number of team



records. I guess that team is still competing to this day - 20 years later - with big kids, and little kids.

Anyway, enough of all that.

Albert Gore is introducing this bill again - Son of NREN they're calling it. I sure hope he wins this one.....

Jack Rickard
Editor Rotundus
Boardwatch Magazine

LETTERS

Address correspondence to Letters to the Editor, Boardwatch Magazine, 5970 South Vivian Street, Littleton, CO 80127.

Dear Jack:

I think one reason why I read Boardwatch is because of your writing style. You don't pull punches, you say what you feel and defend it eloquently. For that you have my respect and renewals.

You also responded to a letter from a small BBS sysop who wondered why you listed his board in your list alongside some much larger for-profit boards. As a sysop of a very large government board, I also have wondered why we are listed on your list. Your explanation is very logical and we appreciate the listing.

Your support of Perot was somewhat disturbing at first, but after your explanation I am a bit more comfortable that you are giving his alleged candidacy your usual rapier-like examination. Unless we clear the halls of Congress for any candidate, we do them a disservice by electing them to the Presidency.

Thanks for a fine magazine!

D. Alan Cunningham
Technical Program Manager
NASA Spacelink
Marshall Space Flight Center
NASA Spacelink Modems:205-895-0028

Mr. Cunningham:

Thank you for the kind words. And your closing comments are unfortunately most true. Throwing anyone into that

Washington meat grinder is hardly a favor. If anyone both deserves it and could deal with it, it would have to be kind of a mean little guy with "short" syndrome, a chip on his shoulder, used to having his own way, and nothing to lose.

Who do YOU have in mind?

Jack Rickard

Dear Jack:

I read with interest and appreciation your editorial concerning God. I took my copy of Boardwatch home and read it to my wife. She also sends her appreciation. May God bless America. May he also bless you. I would appreciate a list of family oriented BBSs as well as a list of religious oriented BBSs. Keep up the good work.

Sincerely;

Don and Jennifer Reynolds

Don and Jennifer:

We'll see what we can do about publishing such lists in the next issue or so. Actually there are several nets focused on family and religious issues. You might start with Bob Hoffman's Harvester BBS at (708)887-7686. Bob has been the head of FamilyNet for a number of years.

Warmest Regards;

Jack Rickard

Jack:

It's always refreshing in this day and age to have someone with guts to mention the "G" word in public. The other day I actually saw a couple say grace in a PUBLIC place before eating. It's things like that and your editorial in July's BOARDWATCH that inspire me to think about God and count my many blessings.

Thank you,

David Wachenschwanz

David:

Pleased we hit the mark. I originally wrote the editorial with no intent to actually publish it - an exercise of exploration. A friend advised as how I would never get out of it alive, and so naturally it had to go into the July issue. If it's important enough to back away from, it's usually important enough to plow on through. (Readers note: do NOT try this philosophy at home).

In any event, from the mail we've received, I've got to believe there are a lot more Gxx speakers than I had thought. Like me, they are a bit cowed between those who for some reason hate the whole idea of Gxx, and those religious fanatics that probably cause them to feel that way. A majority squeezed between two tiny minorities - odd that.

Anyway, thanks for the note.

Jack Rickard

Dear Jack:

Jack, after the shock wore off and I got back in my chair, the amazement set in. To find you writing about Gxx was a jolt to the system. The last thing Boardwatch has represented is any kind of concern for Gxx. Obviously Gxx is trying to warn you before it's too late. You just mis-directed the conviction.

Then as I read your article the amazement set in. I am amazed that you cannot understand why Gxx is not mentioned anymore. Just look in your own back yard. Simply thumb through your articles and ads. Or look through the list of speakers for the ONE BBSCON. One cannot find anything remotely related to Gxx. It appears He is not welcome at the convention. And you are using His building.

Surely you can see that money and "adult" matters have taken over the bbs world. Indeed you will see how you have been a supporter and defender of the sexually perverse crowd. Certainly you remember writing the following,

"All that said, I'm curious. How do you know those ankles are a woman's?
(April 1992)

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Right! They are men's ankles in high heels handcuffed to the wall. What grand logic. And you are amazed Gxx is not mentioned anymore. He is not mentioned anymore because He is not welcome. Unless it serves the selfish interests of those using His name.

The greatest and saddest mistake you made in your article was your conclusion. You state,

"Gxx Bless America...
...pass it on...
...(softly)..."

Jack Rickard, Editor"

However, the guy you were talking about says this.

Psalms 50:16

But to the wicked, God says: "What right have you to recite my laws or take my covenant on your lips?"

To pass it on as you want, is to break a major commandment.

Exodus 20:7

"You shall not misuse the name of the LORD your God, for the LORD will not hold anyone guiltless who misuses his name.

Kennedy, the President you held up as an example was a womanizer that most assuredly broke this command. And now you are recommending everyone else do the same. Only those who repent and give everything to God are allowed to "pass it on".

I have enclosed several sermon tapes where you will find God mentioned a couple of times. They are free because true Christians "hate" and "despise" money, (Matthew 6:24). Right?

Amazed at your amazement.

Tim
Sound Doctrine Church
Aurora, CO

Tim:

So, Gxx and I have both been quoted out of context now. At least I'm in good company. I gather if John Kennedy and I both come to measure up to your personal views on sexual morality, it will be ok for us to say Gxx with your full approval, which we both desperately need and desire.

The reason most of us are cowed Tim, is because of religious fanatics that have made it embarrassing and uncomfortable to take a public position. They've perpetrated so many horrors under the same banner that it's impossibly awkward to be identified with them. You can usually tell them by the 50:16 and 20:7 notation they use, in every sentence they speak or write. This is generally easier than thinking because they can live by numerical index. Better yet, carry a lit-

tle book in their pocket so if they run into anything new or difficult today they can "look it up".

Unfortunately, I'm not afforded such a simple world. I sometimes wish I was, but I'm not. Read the editorial again and sound out all the words.

I said softly. The word has a meaning. Look it up.

Jack Rickard

Jack:

As usual, a great issue. I'm glad you have my buddy Bill Gram-Reefer on board, even though he and I strongly disagree on what to do in disillusioned times. I've got to tell you, it is very disconcerting to find a Berkeley leftie like myself agreeing with a sexist ol'boy like you, but I'm in almost total agreement with your stand on freedom of communications.

A few notes on the June issue:

You say that it is "not a good thing at all" to have a "lot of \$50,000 per year middle managers now running video rental stores at \$6 per hour." Why the hell not? If they were really worth \$50K/year in the first place, then they will certainly be of great value in the stores they are working in. This country consumes a hell of a lot of entertainment and leads in the world in entertainment production. Having qualified people in the field in one of the most popular forms of consumer entertainment (video rentals) may spark some big changes that lead to an even bigger market, or may cause us to create new entertainment markets thought up by frustrated video clerks.

On the other hand, if these folds were getting paid \$50K/year when they really deserved \$6/hour (as I would suspect in at least 25% of the cases), then we are all better off having them be paid what they are really worth to society. Take that extra \$19/hour and hand it to the workers in the axle manufacturing companies (assuming they are doing their jobs well). If the ex-execs prove their worth as being more than \$6/hour, they'll start earning more. If not, some

of the people earning \$6 who are worth more will start getting more. Sounds right to me.

Your free education proposal sounds great: why cut it down by saying "Expensive? I'm going to say yes." Let's run some numbers. I'd guess that about 50 million working people might take advantage of it in the next ten years (gad, I'd be ecstatic about it if they did!). Some will take one difficult course and drop out, remembering why they were so glad to be out of high school or college. Others will take five or so before being able to leave their jobs and take better ones. On the average, I'd say three classes. If it costs society about \$1000/class/student (to pay the profs, buy the books, run the college, and so on), that comes to \$150 billion over ten years or \$15 billion per year.

WE CAN CUT \$15 BILLION A YEAR FROM THE "DEFENSE" BUDGET AND NOT EVEN NOTICE IT! Geez, we can probably cut \$50 billion without making a significant dent in the wasteful spending. Remember, the defense budget is supposedly there to make "our country" "strong" to help withstand "attacks" from "our enemies". Educating a large percentage of the workforce to be much more productive in the world market is a smarter long-term investment than \$15 billion for a few bombers that can't be repaired unless we have smarter workers.

Of course I'm in favor of the great US net, but don't assume that it will be better than the Japanese can imagine. The Japanese have better imaginations than you might think. Do you know any Japanese? Given your position and popularity of BBSs in Japan, it would be easier than you think to get to know many of the really creative people there. They have as grand thoughts as we do about connecting their country (which is much smaller and denser, making it easier to cable every room).

The press is starting to attack Perot for his electronic democracy ideas and his lack of stated views. My guess is that they all of a sudden realized that all those electronic links between people will clearly diminish the influence of newspapers in politics. Why vote the way your favorite newspaper tells you

when you now can have 50 favorite newspapers put out by 50 individuals? I too have many disagreements with him on many individual issues (though not the two you mention), but I'm sure he has a better chance of making democracy more attractive to Americans than either Bush or Clinton.

Good calls on the letters criticizing you for running ads for sex and gay BBS's. The concept of "safety" of BBS's is laughable in this society. I'd wager that a standard chat BBS is of more danger to more individuals than a sexually explicit one. If you are skeptical of that statement, show a South Central resident the reactions to the riots that appeared on the BBS's around the country. The calls for the status quo after the riots are as dangerous to that person as they are to the women and children who are raped every day. But you won't find anyone telling you not to run ads for boards that don't challenge the status quo in the inner cities or in third world countries. Nor will you find many people who have actually read the sex BBS's to find that they do less to encourage rape than standard network television.

Hmmm. I didn't even make it through the letters column. Shows how good the magazine is. Keep it up, and good luck with the ONE BBSCON.

Paul Hoffman
phoffman@well.sf.ca.us

Paul:

Well you might not have made it through the letters column, but you've certainly found your way into it - at length.

First, I disavow your characterization of me as a sexist ol' boy. I hold traditional family values, and do not buy the FemiNazi party line. That hardly makes me "sexist" or an "ol' boy."

Your view of the economic dislocations actually lie pretty close to my own views on efficiency of economic systems. Under those theories, we are letting the air out of the system and eventually it has to be let out. But there are some human and personal costs. It takes years to build a career and if you happen to be in the wrong age group, the wrong city, or the wrong career group, your life,

your marriage, your home, can all be altered by these impersonal forces. A bit of compassion might be appropriate.

Secondly, this is not a normal adjustment of economic excess. That is in fact precisely the point I was making. It is a fundamental change in economic basis as significant as the change from agriculture to industry. And this particular change has the potential to stratify our society beyond anything previously experienced. A lot of people can be "left behind" very easily. A lot inevitably will be. The question is, what can we do as a society to enhance the benefit from this change, and what can we do as a society to ensure the widest possible participation?

The National Data Highway concept, if well and soon implemented, can enhance the benefit of the change. A national policy of lifelong free and public education may make it easier for people to make the moves necessary to prosper, and at the same time ensure the widest benefit to the most of the citizenry.

Subsequent to that editorial, Senator Albert Gore has introduced new legislation into the U.S. Senate that many are calling "Son of NREN" - basically the same national data highway vision as the original NREN he also introduced. This time though, he is specifically spelling out connections for K-12 education, manufacturing, and our health care system. A leader. One of the "big kids". I'm encouraged.

I'm amazed at all the different things that can be paid for out of our defense budget. The peace dividend has become the funding source for every special interest in the country. I guess I have to ask: if there is so much money left over from defense, how come we're going \$400 billion in debt every year? I guess when we're already spending money we don't have, thrift on any specific is kind of a backward and old fashioned concept. What I really think is that we have a significant percentage of our population that reside in a mythical world of numerology - a land where you don't NEED to be able to count to four.

But to carry the same verbal tone, I do use a guns or butter model. There are any number of things we spend that are consumed (butter). There are some

things, (not many now) that are investments in future production (guns). This is a pretty simple minded formula. More guns now, more butter later. More butter now, less guns now. Less guns now, less butter later. Ultimately later is now, and we have less guns, less butter, and the politics of less and less.

True, we have to eat. But if you don't invest in things that will produce income in the future, 28% of nothing is still ultimately nothing. And I view the National Data Highway concept, and the concept of National Lifelong Education, as guns. However we get the money, wherever we get the money, it's money that has to be spent if we are going to prosper in coming decades. And I don't glibly just filch it out of a thoroughly fictitious "defense budget". I consider these real, genuine dollars. But we still need to spend them.

As you point out, as these things go, neither program is particularly expensive in a relative sense. Given the propensity of our government to eat 90% of anything we do in administrative costs - your \$15 billion per year for education would be more like \$150 billion. A network is actually pretty paltry by comparison. A total investment of \$210 billion over the next 15 years will give us pretty much fiber optic network into every gasoline station bathroom and dairy barn in the free world - at optical speeds. And the government really only has to put up perhaps 15-20% of that to make it happen in a big way and very quickly. Technology and networks, compared to the \$50,000 per foot cost of highway concrete for example, are very nearly free.

As to the Japanese, yes, I know a few. I lived there for four years in the late '70s. Currently Masaru Ikeda of Fujiid-era, Osaka is on our system daily. He works as an editor as PASOCOM TSUSHIN, essentially the Boardwatch of Japan. We are currently carrying an English electronic publication he puts out called MONSOON on our BBS you might have a look at. And I'm rather pleased to note that Boardwatch will soon be available in Japan in a completely Japanese translation - courtesy of Mr. Ikeda. We will likely post it on the Boardwatch BBS as well for anyone interested.



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I don't really have anyone telling me what ads to run or not Paul. Understand this exercise for what it is. The ones you hear from could honestly care less what ads we run and know full well that it will have no impact on the ads themselves. They take it as an opportunity to air their own particular special political theme or interest and the ads are an excuse to be outraged, offended, or whatever emotion is an appropriate forum for presenting their own particular agenda - feminism, Christian fundamentalism, Gay rights, or whatever. Most publications simply deep six such communications. Boardwatch is a little odd in that I let them vent their spleen a bit. It tells me about our readers, our readers about me, and our readers about our readers. It's called communication. I kind of like the idea of a magazine filling that role. It doesn't ALL have to be electronic you know.

Thanks for writing;

Jack Rickard

TELE-BITS

RUMORS

Star Trek - Deep Space 9 will debut in January 1993. *Star Trek The Next Generation* is slated to be phased out over the next year or so. Ensign Roe and Lt. Worf will likely make the move to the new space station program. Insiders claim that unlike *Next Generation*, it won't be all sweetness and light between the characters of *Deep Space 9*. Bottom line - for at least a year we'll have TWO *Star Trek* programs. *Next Generation* being the number two Paramount money maker behind *Wheel of Fortune*, it may have more life than expected as well...

CompuServe is showing around a version of the CompuServe Information Manager (CIM) for Windows 3.1. We hear it's pretty. Still not much support for offline mail. They want you to be online....

TBBS LAN version? A lot of speculation going around about a modular LAN version of eSoft's **The Bread Board System (TBBS)** BBS package - probably on target. This package, while providing support for up to 64 lines, is a bit possessive of the machine and has virtually no support for LAN functions other than reaching file areas across a LAN. An apparent sea change in philosophy at eSoft on this topic and apparently a flurry of programming activity. Why? Release of version 2.2 last year included upping the line count to 64 lines from 32. TBBS is the only package that can really support 9600 bps connections on 64 lines simultaneously without crying uncle performance wise. The move was intended to be mostly psychological - to increase sales of 32-line packages to those who feared the 32 line limit - room to grow. eSoft head Phil Becker thought sales of the actual 64 line package would measure "in the dozens - tops." After the introduction, sales of 64 line packages went through the roof - officially "beyond expectations" but probably over a hundred systems. THEN - TBBS gurus Mike Stroud and Paul O'Keefe of Micro Message Service in Raleigh landed a contract to install a TBBS system in Redmond for Windows support. The hitch? Microsoft wanted to start with 240 lines. The tobacco state duo kludged something together that appears to work, after a fashion, but eSoft has apparently gotten the message. The result looks to be a LANable modular version of TBBS allowing multiple TBBS machines on a LAN to share a common userlog and message base. Modules are not likely to support 64 lines - more like 24 or 32 - but you can string them together on a LAN to do any line count you like. BONUS: LAN users will be able to logon to the system without tying up a serial port. eSoft won't talk about it, so it's probably true.

The Federal Government has issued its first regulation requiring the use of BBS software. The DOE has issued regulations requiring interstate gas pipeline operators to publish their rate and tariff information on an electronic bulletin board system.

V.32bis CELLULAR PHONE/MODEM

Vital Communications of Lake Success, New York, has introduced a 3.5 pound package containing a cellular telephone transceiver, as well as a 14,400 bps V.32bis modem and fax. The device uses the Rockwell chipset to provide V.32bis, V.42bis compression, and V.17 fax capabilities. The modem also features the Microcom Networking Protocol version 10 (MNP-10), commonly referred to as the cellular protocol. It is designed to account for the dropouts and adverse line conditions experienced over a cellular link.

The **Cellular Data System 130** is sized at 8.5 X 11 X 1 inch to complement the size of most laptop computers. A replaceable NiCd battery will power the 3-watt transmitter for up to two hours. The modem can also be connected to an ordinary telephone line. Voice calls can be made by plugging in a standard telephone to one of the RJ-11 jacks provided.

With fax, V.32bis, RJ-11 jacks allowing connection to land lines or use of other devices through the cellular telephone, the **CDS-130** sounds like a dream come true. Vital Communications apparently thinks so with an enormously proud \$2395 price tag its put on this one. Vital Communications, 1983 Marcus Avenue, Suite 111, Lake Success, NY 11042; (516)437-4400.

BILL GATES AWARDED NATIONAL TECHNOLOGY MEDAL.

President Bush awarded a **National Medal of Technology** to Microsoft founder William Gates on June 22. The 36 year-old Gates was the youngest American to receive the medal, which was first awarded in 1985. The President cited Gates for developing the operating system currently used on over 90 million personal computers, and making PCs a common desktop appliance. Gates, who left Harvard University in 1975 to start Microsoft, was the first software industry executive to receive the award.

FREE SECOND AVAILABLE FROM NIST

The National Institute of Science and Technology's Time Keeping service in Boulder, Colorado will be adding a second to the national clock **June 30**. The second will be added to bring the solar day and Universal Coordinated Time (UTC) back into line. A total of 16 such leap seconds have been added since 1972 - the last in 1990. PC owners who want to pick up their lost second can do so by dialing the **Automated Computer Time Service (ACTS)** at (303)494-4775. A number of shareware programs are available to allow you to synchronize your PC clock to the **NIST ACTS** service by modem to within 1/100th of a second. If you're worried about your lost second, our favorite is **PCCLOCK.ZIP** - a most timely program.

MICROSOFT AND AT&T EASYLINK JOIN FOR ELECTRONIC MAIL

Microsoft appears to have designs on making their **Microsoft Mail** program an e-mail standard. The company is rumored to be planning to include **Microsoft Mail** in the next release of **Windows**. The rumor gains some status by the June announcement that **Microsoft Corporation** and **AT&T** have formed a strategic alliance linking **Microsoft Mail 3.0 for PC Networks** with **AT&T's Easylink** electronic mail service. The agreement lays the foundation for both networked and individual **Microsoft Mail** users to easily pass electronic mail through the service.

AT&T purchased **EasyLink** from **Western Union** in 1990 for \$180 million. Between **AT&T E-mail** and the **EasyLink** acquisition, **AT&T** claims over 40 % of the commercial electronic mail market. As part of the agreement, **AT&T** has endorsed **Microsoft's Messaging Application Programming Interface (MAPI)**.

EPA CLAIMS SLEEP-MODE PCs WOULD SAVE \$1 BILLION IN ENERGY

The Environmental Protection Agency has proposed that the "sleep-mode" commonly available on laptop computers be adopted for desktop PCs as well, and claims it would save \$1 billion annually in electricity. Most laptop computers provide a feature that powers down the unit to a minimal level after a few minutes with no keyboard input. By pressing any key on the keyboard, the unit re-powers in the state it was in when it timed out. Several companies have "taken the pledge" to support sleep-mode including **Apple Computer**, **Compaq**, **DEC**, **HP**, **IBM**, **NCR**, **Smith Corona**, and **Zenith Data Systems**.

GALACTICOMM, INC. ANNOUNCES 6.0 RELEASE OF MAJOR BBS

Galacticomm, Inc. of **Ft. Lauderdale Florida** has announced release of **The Major BBS Version 6.0** as of **July 20**. **Major BBS** allows **BBS operators** to operate multiple telephone lines from a single PC and has become a favorite of chat system operators due to a feature-rich chat function. It is also nearly the only **BBS** package that deals with **X.25** packet networks in any sort of intelligent fashion.

Stung by a less than favorable **PC Magazine** review in the September 10, 1991 issue, **Tim Stryker et. al.** set out to rework **The Major BBS** in a pretty major way. And the results look pretty impressive.

First, they've unbundled all the unbundling. Pricing for the previous version of **Major BBS** started at \$59, but there were so many options required to do constructive work that it was quite confusing - and eventually expensive anyway. The new release starts at \$259 with a greatly expanded file library function, menuing options, and full-screen editor for the message base. You could conceivably run a **BBS** with this starter package, and that was unlikely with the earlier version.

One of the strengths of the package was third party support for add-on packages. Most of these were multi-player games allowing callers to contest with each other in real time. These caused some operators difficulties however. They were required to purchase the source code for **Major BBS**, the source code for the third party add-on, and then integrate and recompile the two together. While a bit technical, it worked - with one add-on program. The problem was, sysops don't do much of anything in groups of one. And by adding on eight or ten programs, conflicts arose - sometimes subtly, that at some level of complexity led to an unstable system - particularly in the hands of a less than technically-oriented **BBS operator**.

The new 6.0 version addresses this by using the **Phar Lap DOS Extender**, which now comes bound with **The Major BBS**. It provides memory management - eliminating the 640K barrier. But more importantly, it allows them to use what are essentially **Dynamic Link Libraries** akin to those used by **Windows** and **OS/2**. Rather than "linking" two programs when they are compiled, this arrangement links them when they are run - effectively allowing separate program modules to work together with the third party add-on accessing services from the main **.EXE**. The result is relatively effortless integration of an unlimited number of third-party programs into a **Major BBS** system without re-compiling the software. The programs become plug-ins. Downside? Say goodbye to 8088 machines for **The Major BBS Version 6.0** - it requires a '286 or better machine. Small loss there.

Another limitation of **The Major BBS** was very limited connectivity to other e-mail services - virtually none in the past. A third party program was required to translate messages from the message base to **FidoNet** or **.QWK** style networks. This new version of **The Major** does feature built-in connectivity to electronic mail networks using **Novell's Message Handling Service (MHS)**. This port to a major message format should make dealing with mail to/from a **Major BBS** much easier. The new version also supports up to 3500 message "forums".

The new version also includes a significant upgrade in accounting and security features. The Major BBS was hit hard in the *PC Magazine* review on the topic of security. Security in bulletin boards doesn't mean what most people think it means. It is not as simple as keeping some people out of the BBS and letting others in. And in fact, it goes beyond awarding different classes of callers different amounts of online time or download privileges. It has to do with the level of control the operator has over what features of the BBS are available to which callers - and when. Often, you want some callers to have access to a single message area, another set of callers need access to three areas, some callers should have access to all areas, other callers need access to some areas at some times and others at others. Some small group might need their own download area and not need messages at all. There is simply no end to the "special" situations you can come up against in running a system.

Galacticomm took a look at the bit-flag authorization scheme used by some of the packages known for strong/flexible security and opted instead for a new "Locks" and "Keys" system that is probably easier to conceptualize. Each fea-

ture of the BBS can be individually "locked" and each user can receive a keyring with individual keys. Only callers with the proper key can access any particular locked feature. Each key has a unique 15-character name and users can have up to 4096 keys. More global restrictions can be exercised under "classes" of callers. The result is actually quite flexible.

A number of minor enhancements were also welcome. Most notably - user IDs. The system previously limited callers to a single 8 character ID. As a result, everyone wound up with names like joegorf or bigbabe on the system. It works for chat boards, but serious corporate support board users were not charmed. The new version allows full names up to 30 characters with punctuation and spaces allowed. You can now be Joe Gorfelswitz on a Major BBS without embarrassment.

Version 6.0 also adds a file marking feature allowing callers to mark files for later downloads. An auto-forward feature allows callers to have mail forwarded to another account on the system, or an MHS account off the system entirely. And finally - an overall ANSI

dressup for both the sysop and the callers makes the package a lot easier on the eyes.

The company is going after the competition. They are offering \$100 off the price of the package in exchange for the first page of a *PCBoard*, *Wildcat!* or *TBBS Operator's* manual until October 30, 1992. Galacticomm, Inc. 4101 SW 47 Ave., Suite 101, Ft. Lauderdale, FL 33314; 800-328-1128 sales/literature; (305)583-7846 fax; (305)583-7808 BBS.

TELEBIT OFFERS QBLAZER AT \$299

On July 7th, Telebit Corporation announced they would sell their popular **QBlazer** modem to all who order directly at \$299 - a 50% discount from the \$599 list price of the modem.

This tiny cube modem, last reviewed in the April issue of Boardwatch, measures 2.3 X 2.4 X 2.4 inches and weighs about 5 ounces without battery. It delivers CCITT V.32 connections at 9600 bps and includes V.42bis data compression and V.42 error correction. Although tiny, the modem features a speaker, a full array of LED status lights, and operates from either a 9V battery or the included AC adapter.

The **QBlazer** is an ideal modem for laptop use and has become enormously popular within a very short period of time. With 14,400 bps modems showing up daily in the \$300-\$400 range, the \$599 for a model limited to 9600 bps may have seemed a bit steep to some. But this modem is a solid performer and at \$299 it's a steal. Naturally, we're hoping the company comes out with a 14,400 bps model of the **QBlazer** shortly. You can charge your **QBlazer** to MC/Visa/Amex by dialing (800)TELEBIT (835-3248). Telebit Corporation, 1315 Chesapeake Terrace, Sunnyvale, CA 94089; (408)734-4333 voice; (408)734-3333 fax.

WORD PERFECT PURCHASES MTEZ

Word Perfect has purchased MagicSoft, developer of the MTEZ terminal package and ExpressFax. MTEZ was notable in that it implemented the Mi-



Telebit's QBlazer 9600 bps V.32 Modem

The Village Group announces a whole new concept for you, the sysop:

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crocom Networking Protocol (MNP) in software, allowing non-MNP modems to accomplish an MNP connection.

14,400 BPS MODEM PLUS FAX - \$279.

Lightning Communications has set a new price point in high speed 14,400 bps modems with their **Lightcom 144F** model. This half-slot internal circuit card modem offers CCITT V.32bis 14,400 bit-per-second (bps) data connections AND 14,400 bps send/receive fax function - at a list price of \$279.

The card uses the now ubiquitous Rockwell chipset to provide both fax and data communications functions. It also features the National Semiconductor 16550 buffered Universal Asynchronous Receiver/Transmitter (UART) chip allowing you to lock the data rate at up to 57,600 bps. The card's physical layout and manufacture are exceptionally clean. The small half-slot design is common in 2400 bps modems but notably rare in higher speed equipment. An internal speaker is audible, if the sound was a bit distorted. Dip switches to set the COM port to any of 1-4 and the IRQ to either 3 or 4 are mounted on the base

plate - accessible at the rear of the computer. This arrangement is much more convenient than the on-card jumpers most internal modems use. You can easily change the COM port assignment on the Lightcom without pulling the card or even opening the computer.

In data operation, we found the card similar to other implementations of the Rockwell chipset - a good performer - though less than heroic on really noisy lines. We tried a number of long distance downloads and consistently pulled files at 1670 characters-per-second.

The combination of fax and high speed modem, which we first raved about in our review of the Supra FaxModem 14.4 in our May issue, is still impressive. The Lightcom 144F uses the same chipset. The Lightcom features both Class 1 and Class 2 command interface capabilities - allowing it to work with most Fax software programs. The modem comes with a program titled **Quicklink II Fax** by Smith Micro Software, Inc. This is a DOS terminal program that includes the fax capability as an integral part of the program. It's easy to use, and features an impressive array of file conversion functions allowing

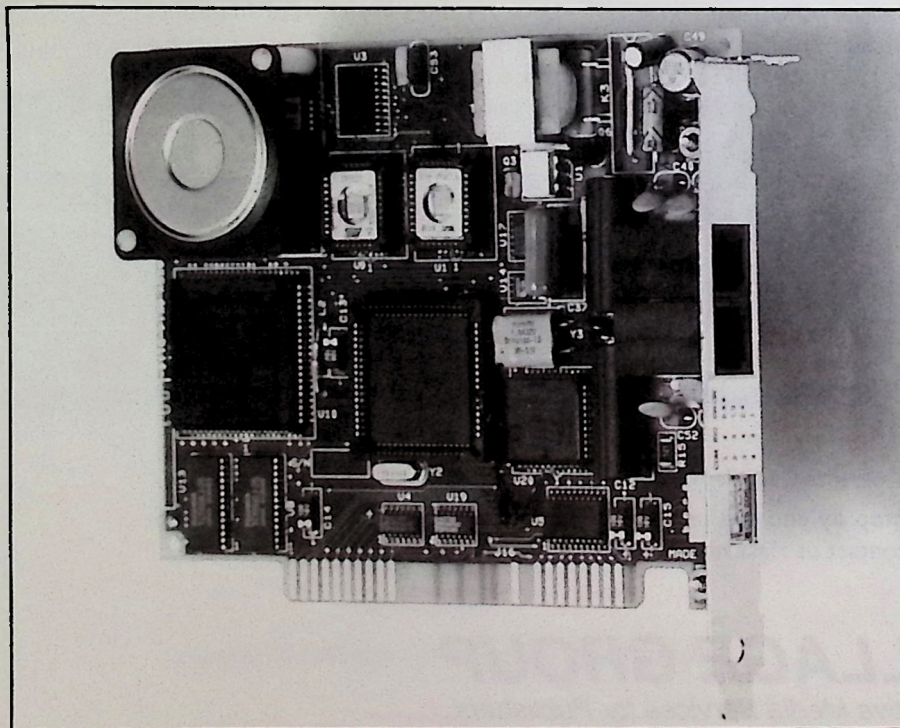
you to transmit ASCII text, .PCL, .PCX, .TIF, .CUT, .BMP, .IMG or .MAC files as fax images. An export function even allows you to convert incoming faxes to .PCX or .TIF format. A background function allows you to receive faxes while doing other things.

But frankly, the power of a fax modem really shines in the Windows environment. By defining a fax driver as a printer driver, you can actually fax directly from within programs such as Ventura Publisher, Microsoft Word, Windows Write, Corel Draw, etc. You simply print from within the program normally, but select the fax driver as the desired printer. You get all the fonts and graphics available from whatever program used, and the result on the other end is much clearer than a normally scanned image. We tried the WinFaxPro program from Delrina Software with the Lightcom 144F to excellent results. This is not a send-only fax. You can receive fax transmissions on it and the Quicklink II software makes provisions for background fax reception. We didn't test the receive function.

The most impressive aspect of the Lightcom 144F is of course price. At \$279 list, it is the least expensive modem we've tested offering 16550 UART, 14,400 bps data connections, V.42/42bis, MNP1-5 and both send and receive fax - that works. Lightning Communications does run a very capable product support BBS using GAP BBS software and they do offer a BBS sysop discount on the product - to \$240. They make this pretty convenient too - you can order online using a Master Card or Visa. Lightning Communications, 36 Argonaut, Suite 150, Aliso Viejo, CA 92656; (800)433-4420 voice; (714)457-8004 fax; (714)457-9429.

V.32bis POCKET MODEM ANNOUNCED

Micro Integrated Communications Company (MiCC) has announced a pocket-sized fax modem incorporating the 14,400 bps CCITT V.32bis modulation standard, V.42bis error correction/compression, and fax in a very portable 6 oz package. The modem is called the **Global FaxModem 14400 PMF Pocket Modem/Fax** and is priced



Lightcom 144F Internal 14,400 bps V.32 bis plus Fax Modem
\$279

Eight lines, one computer...

No problem.

Introducing Wildcat! IM

The new 'Intelligent Multi-Port' version of WILDCAT! is a special release designed for BBS installations requiring up to 8 incoming lines on a single PC, with or without LAN connectivity. Multiple PCs of 8 lines each can be connected in a LAN setting, up to the maximum of 250 nodes. WILDCAT! 'IM' shares all the features and functionality of the rest of the WILDCAT! product line, while taking advantage of the most popular intelligent multi-port serial cards in the industry, the DigiChannel COM/8i, PC/8e or PC/8i.

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The eight-line per PC capabilities of WILDCAT! IM are just the beginning. In a LAN setting you can set up multiple 8-line systems combined with local connectivity for all your network users. A 16 or even 32 line BBS now takes only a fraction of the space required previously, and adds the convenience of local LAN access.

Wildcat! IM Packages

WILDCAT! IM is only available in a 250 node configuration, and is priced at \$799. A special WILDCAT! IM+ package, which includes WILDCAT! IM software, DESQview 386/QEMM and a DigiChannel COM/8i serial card and cable, is package priced at \$1,999.

*Another breakthrough from
the programmers at MSI*

SYSTEM REQUIREMENTS:

COMPUTER

An 80386/33 is the minimum system required for operation. As the number of BBS lines and line speeds increase, faster processing may be needed. An 80486 system will operate all eight lines at full throughput, even with the newest high-speed modems.

MEMORY

A minimum of 8MB of RAM is required. To improve file access speed, additional RAM can be utilized for virtual RAM drives and disk cache.

MULTI-PORT BOARD

The WILDCAT! IM version is specifically designed to operate with intelligent serial port cards from Digi International, Inc. The DigiChannel COM/8i, PC/8e or PC/8i cards make use of on-board microprocessor support for communication activities.

MULTI-TASKING

The multi-tasking chores on a WILDCAT! IM installation are handled by DESQview 386 from Quarterdeck Office Systems.



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at \$799. This is the first 14,400 bps pocket model we've heard about. Micro Integrated Communications Company, 3270 Scott Blvd., Santa Clara CA 95054; (408)980-9565 voice; (408)980-9568 fax.

BBS FOR AS/400 MINICOMPUTERS

An Atlanta company with the profoundly imaginative name of Return On Investment Company (ROICO) has made some inroads with communications products for IBM's AS/400 computer that are somewhat more creative. The AS/400 is ostensibly a premier database server but suffers somewhat on the communications front. ROI has developed a line of data acquisition products involving bar code readers, laser wands, etc., commonly used to perform inventory/data entry functions. Some of them involve RF radio links back to the AS/400 server.

IBM is rolling out a new line of AS/400 hardware starting at prices as low as \$12,500 - although systems can run as high as \$100,000. The operating system that comes with the system contains a highly regarded relational database and indexing system. It also comes with TCP/IP and X.25 protocols built in.

One of the more interesting products is ROI/COMM/400. It would appear that the AS/400 has a predilection for synchronous communications. ROI/COMM/400 performs asynchronous ASCII communications - primarily in software. Ira Chandler, a developer with ROICO has started to play with the concept of an AS/400 BBS package. The plans have progressed to the point of a product titled ROI/BBS/400. He's come up with a very creative pricing strategy as well. It's FREE. The package allows users to direct connect a PC to the AS/400, access an online menu, and transfer files using the XMODEM file transfer protocol. The menu is quite configurable - allowing access to almost any AS/400 batch process and the messaging system provided in the AS/400 operating system. A driver for a dialup modem port is priced at \$199. Given the price of most AS/400 software, \$199 is still near enough free.

Chandler is considering using a combination communications controller (A PC actually) with DigiPort boards from DigiBoard that could allow up to 32 lines per controller. In this fashion, the AS/400 would be able to serve several hundred lines - providing an alternative for high-end large line count systems. The current ROI/BBS/400 product provides a PC compatible port for AS/400s now - at no cost. The company plans on having a demo line up within a few weeks. Contact Ira Chandler, ROICO, 2884 Anderson Circle, Smyrna, GA 30080; (404)923-6105 voice; (404)319-7925 fax.

THIRD CFP CALL FOR PAPERS

Plans are underway for the Third Conference on Computers, Freedom and Privacy. The event is scheduled for March 9-12, 1993 at the San Francisco Airport Marriott Hotel.

Jim C. Warren, founder of *Dr. Dobbs Journal* and the West Coast Computer Faire, also founded the First Conference on Computers, Freedom and Privacy in San Francisco in 1991. The Second CCFP was held this past March in Washington D.C.

Bruce R. Koball has been drafted as Chair of the Third CCFP. He was involved in organizing the first one. He has issued a Call for Participation soliciting session and topic proposals for individual talks, panel discussions, debates, or other presentations. The following description is excerpted from this Call for Participation:

SCOPE

The advance of computer and telecommunications technologies holds great promise for individuals and society. From convenience for consumers and efficiency in commerce to improved public health and safety and increased participation in electronic institutions, these technologies can fundamentally transform our lives.

At the same time these technologies pose threats to the ideals of a free and open society. Personal privacy is increasingly at risk from invasion by high-tech surveillance and eavesdropping. The myriad databases containing

personal information maintained in the public and private sectors expose private life to constant scrutiny.

Technological advances also enable new forms of illegal activity, posing new problems for legal and law enforcement officials and challenging the very definitions of crime and civil liberties. But technologies used to combat these crimes can threaten the traditional barriers between the individual and the state.

Even such fundamental notions as speech, assembly and property are being transformed by these technologies, throwing into question the basic Constitutional protections that have guarded them. Similarly, information knows no borders; as the scope of economies becomes global and as networked communities transcend international boundaries, ways must be found to reconcile competing political, social, and economic interests in the digital domain.

The Third Conference on Computers, Freedom and Privacy will assemble experts, advocates and interested people from a broad spectrum of disciplines and backgrounds in a balanced public forum to address the impact of computer and telecommunications technologies on freedom and privacy in society. Participants will include people from the fields of computer science, law, business, research, information, library science, health, public policy, government, law enforcement, public advocacy and many others.

PROPOSALS

All proposals should be accompanied by a position statement of at least one page, describing the proposed presentation, its theme and format. Proposals for panel discussions, debates and other multi-person presentations should include a list of proposed participants and session chair. Proposals should be sent to CFP'93 Proposals, 2210 Sixth Street, Berkeley, CA 94710 or by e-mail to cfp93@well.sf.ca.us with the word **PROPOSAL** in the subject line. Deadline for submissions is 15 August, 1992.

BULLETIN BOARD OPERATOR DISCOUNT PROGRAMS V.32 and V.32bis Modems

VENDOR	MODEL	LIST	SYSOP	BBS	VOICE	FAX
ATI Technologies	ATI V.32	\$699	\$350	416-756-4591	416-756-0718	None
Cardinal Technologies	9600V42 V.32	\$699	\$269	717-293-3074	717-293-3000	None
Computer Peripherals	Viva 9624e V.32	\$349	\$249	805-499-9646	805-499-5751	805-498-8306
Galaxy Networks	UFO V.32bis	\$999	\$299	None	818-998-7851	818-998-1758
GVC Technologies	FM-9696/144V V.32bis	\$689	\$413	201-579-2380	201-579-3630	201-579-2702
GVC Technologies	SM-96V V.32	\$599	\$329	201-579-2380	201-579-3630	201-579-2702
Hayes Microcomputer	Ultra 144 V.32bis	\$1199	\$599	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	Ultra 96 V.32	\$999	\$399	404-446-6336	404-840-9200	404-449-0087
Hayes Microcomputer	ISDN System Adapter	\$1599	\$799	404-446-6336	404-840-9200	404-449-0087
Image Communications	Twincomm 9600 V.32	\$299	\$279	None	201-935-8880	201-935-6548
Intel Corporation	14.4EX V.32bis	\$699	\$399	503-645-6275	503-629-7000	503-228-9707
Intel Corporation	9600EX V.32	\$599	\$299	503-645-6275	503-629-7000	503-228-9707
Lightning Comm.	Lightcom 144F	\$279	\$240	714-457-9429	714-457-8001	714-457-8004
Multi-Tech Systems	MT932BA V.32	\$869	\$435	612-785-9875	612-785-3500	612-785-9874
Multi-Tech Systems	MT1432BA V.32bis	\$899	\$450	612-785-9875	612-785-3500	612-785-9874
Practical Peripherals	PM14400FXSA V.32bis	\$549	\$250	818-706-2467	818-706-0333	818-706-2474
Supra Corporation	SupraFAX V.32bis	\$399	\$249	503-967-2444	503-967-2400	503-967-2401
Supra Corporation	SupraFAX V.32	\$299	\$199	503-967-2444	503-967-2400	503-967-2401
Telebit Corporation	T3000 V.32bis	\$949	\$399	None	408-734-4333	408-734-3333
U.S. Robotics	HST/DS V.32bis	\$1295	\$499	708-982-5092	708-982-5010	None
Ven-Tel	EC96 V.32	\$699	\$439	408-922-0988	408-436-7400	408-436-7451
ZyXEL	U-1496E V.32bis	\$469	\$299	714-693-0762	714-693-0804	714-693-0705

U.S. ROBOTICS ANNOUNCES UPGRADE PATH TO 28.8 KBPS STANDARD

The Consultative Committee on International Telephony and Telegraphy (CCITT) is progressing toward the next, and perhaps final modulation standard for modem communications over voice telephone lines. Nominally termed **V.FAST**, this successor to the current top speed in CCITT V.32bis (14,400 bits-per-second (bps)), is expected to deliver speeds as high as **28,800 bps** under ideal conditions. Note we are referring to the true data transmission speed before error correction or compression such as V.42bis is applied.

The progress toward a standard appears to be endangered by a brouhaha that broke out among committee members when **Motorola Codex** began advertising their **326XFAST** modem, claiming conformance with the standard. Now **Racal Vadic** has announced a product as well. Both companies claim users can upgrade to the **REAL V.Fast** when it is finally approved. With the committee at

least a year from agreement on a standard, some committee members find the claims dubious.

"Most of the fundamental things haven't even been agreed on yet," said Dick Stuart, chairman of the committee. "I've had people suggest to me that we change the preliminary name for the standard (V.Fast) just because of what has happened. Some people have even asked me if we can have a number assigned to the standard, whereas normally that's one of the last things we do."

Dale Walsh, vice president of advanced development at U.S. Robotics, Inc., says the Motorola Codex modem incorporates some early proposals that the company made to the CCITT committee. "But it doesn't conform to the standard we are working on," Walsh said. "Nobody can make that claim yet."

According to Walsh, even when completed, the modem will not achieve 28.8 kbps performance for most users. "I'd say that when it's finished in a year or so, the standard will allow 19.2 kbps transmissions on about 80 percent of all lines, 24 kbps on 50 percent of all lines, and 28.8 kbps communications on 20

percent of all lines," says Walsh, who also helped develop the CCITT V.32bis standard for 14.4 kbps dial-up links. "As the phone networks improve, top speeds will be more easily achieved, so I think it's more realistic to think of it as a 19.2 kbps standard that is sometimes capable of higher speeds."

Using **V.42bis** data compression, combined with the new standard, real world data-throughput up to **86.4 kbps** may be achievable. Unlike previous standards, the **V.Fast** standard would include a "probing" function the modem can use to "sound out" the quality of the telephone line. This allows the modem to optimize transmission to take advantage of available bandwidth.

Walsh said he expected the committee to reach final agreement in 1993, with official CCITT adoption likely in 1994.

U.S. Robotics, meanwhile, announced plans to offer the **V.Fast** protocol in a plug-in daughter board upgrade for their modems, when the standard is finally released. The current **16.8 kbps U.S. Robotics HST Dual Standard Modem** has all the hardware needed to perform **V.Fast** functions. They will offer a plug-in daughtercard that will

comprise a field upgrade for the USR DS. Owners WON'T have to send in their modem to have them upgraded. They can simply plug in the \$299 upgrade card. U.S. Robotics is advertising this as the "Last Modem You Will Ever Buy." We don't know about that, but a modem with a conceivable speed of twice what the current "hot" modem provides, would indeed be attractive.

The daughterboard upgrade works on Courier V.32bis, Courier HST Dual Standard, Courier V.32bis FAX, and the Shared Access Modem Sharing Kit. U.S. Robotics, Inc., 8100 North McCormick Blvd., Skokie, IL 60076; (708)982-5010 voice; (708)982-5092 BBS.

INTERNET NEWS

Gore Bill Calls for Networking Schools, Health Care, Business

Senator Al Gore, who introduced the National Research and Education Network (NREN) bill originally in 1988, is apparently not satisfied with the treatment K-12 schools and the medical community received in the final High Performance Computing Act signed by President Bush last December. He's introduced a new package, titled The Information Infrastructure and Technology Act of 1992 to specifically address the wider issues of a national data highway.

The new legislation, introduced July 1, would create jobs, strengthen educational opportunities and improve health care by bringing high-performance computer technology into factories, schools and hospitals as part of a comprehensive U.S. Economic Leadership Strategy unveiled by Senate Democrats.

"If we're going to strengthen our economy and create jobs, we must move these advanced technologies from the laboratories into the marketplace -- into the factories where cars are manufactured, into the hospitals where surgery is performed and into the schools where children are being educated," said Gore,

chairman of the Senate Commerce Subcommittee on Science, Technology and Space.

"So that students from kindergarten through college, factory workers and managers, doctors and health care providers can benefit from the technologies available now only in research laboratories and the data they can make accessible, we must expand our efforts to bring advanced technologies to the people who can benefit from their use," Gore said.

The Information Infrastructure and Technology Act of 1992 is part of a broader proposal, the Democratic Economic Leadership Strategy, introduced by Senate Democrats. The package of legislation is designed to ensure long-term economic growth by investing in development and commercialization of new technologies, enhancing U.S. manufacturing, improving education and training, and opening foreign markets to American goods.

Specifically, Gore's bill would ensure that the technology developed by the High-Performance Computing Act of 1991 is applied widely in K-12 education, libraries, health care and industry, particularly manufacturing. It would authorize a total of \$1.15 billion over the next five years.

The High Performance Computing Act, introduced by Gore, creates a national, high-speed computer network and doubles federal funding for high-performance computing research and development. It was signed into law in December.

"To help increase U.S. competitiveness and create jobs for Americans, the technology developed by the High-Performance Computing Act must be moved from the laboratories into the marketplace where it can be used. This new bill will make sure this happens by developing practical applications for advanced technologies and high-performance computing," Gore said.

"We are close to the day when a doctor in Los Angeles can send the Images from a CAT scan, via a high-speed computer network, across country to specialists at the National Institutes of Health for expert analysis," Gore said.

"We are close to a day when a child can retrieve books on-line from the Library of Congress."

"Through the legislation I introduced today, hospitals, universities, research centers, factories, schools and libraries will be connected to advanced computer networks, sharing data, increasing U.S. competitiveness and improving the quality of life for all," Gore said.

The Information Infrastructure and Technology Act charges the Office of Science and Technology Policy (OSTP) with coordinating efforts to develop applications for high-performance computing networking and assigns specific responsibilities to the National Science Foundation, the National Aeronautics and Space Agency, the National Institute of Standards and Technology, and the National Institutes of Health. It would expand the role of OSTP in overseeing federal efforts to disseminate scientific and technical information.

The Information Infrastructure and Technology Act of 1992 builds on the High-Performance Computing Act introduced by Senator Gore in 1988 and signed into law last year. The new bill would ensure that the technology developed by the High-Performance Computing Program is applied widely in K-12 education, in libraries, in health care, and in industry, particularly manufacturing. It would authorize a total of \$1.15 billion over the next five years.

The bill would establish a multi-agency Information Infrastructure Development Program to be coordinated by the White House Office of Science and Technology Policy (OSTP). This program would ensure the widest possible application of high-performance computing and high-speed networking technology. The Program would assign different agencies responsibility for developing applications of this technology in various areas, develop plans and budgets for developing such applications, and ensure interagency cooperation and coordination. In addition, the bill would assign a new Associate Director at OSTP responsibility for overseeing Federal efforts to disseminate Federal scientific and technical information.



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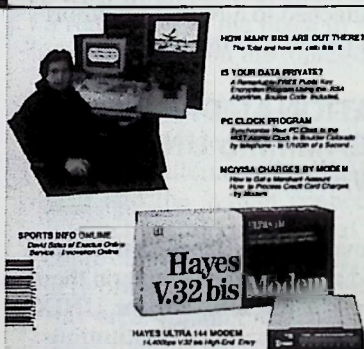
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BOARDWATCH

GUIDE TO THE WORLD OF ONLINE SERVICES MAGAZINE

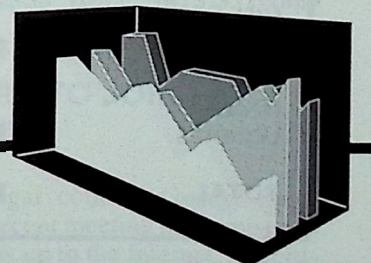


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The bill calls upon the National Science Foundation (NSF) to fund projects to connect primary and secondary schools to the NSFNET, a national computer network connecting hundreds of colleges and universities around the country. In addition, NSF is to develop educational software and provide teacher training.

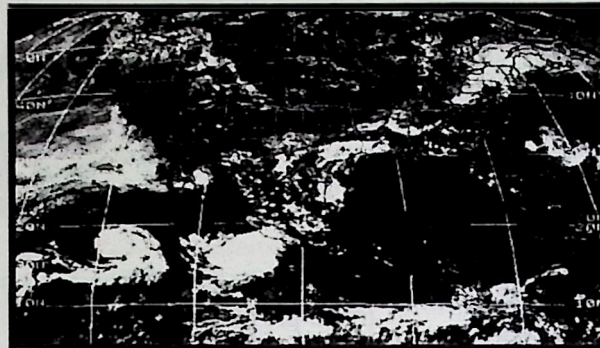
The National Institute of Standards and Technology (NIST) at the Commerce Department is given responsibility for developing networking technology for manufacturing.

The National Institutes of Health (NIH), in conjunction with NSF and other agencies, is to develop applications of advanced computer and networking technology for health care. This includes networks to link hospitals, doctor's offices, and universities so health care providers and researchers can share medical data and imagery, like CAT scans and X-rays. NIH would also develop new software for manipulating medical imagery and data.

The bill provides funding to both NSF and NASA to develop technology for digital libraries", huge data bases that store text, imagery, video, and sound and are accessible over computer networks like NSFNET. The bill also funds development of prototype "digital libraries" around the country.

Authorizations by area and agency over five years (in millions of dollars):

AGENCY	TOTAL
NSF	
Education	\$300M
Libraries	\$150M
NIST	
Manufacturing	\$250M
NIH	
Health Care	\$300M
NASA	
Libraries	\$150M
TOTAL	\$1150M



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HOUSE ALLOWS NSF TO RELAX ACCEPTABLE USE POLICIES ON INTERNET

On June 29, the U.S. House of Representatives passed by voice vote Rep. Dan Boucher's bill to allow the National Science Foundation to relax the current Acceptable Use Policy regarding the Internet. The AUP had restricted use of the Internet to uses "in support of research and education." This restriction prevented commercial electronic mail and other data from passing over the NSFNet backbone, and prevented commercial database suppliers from offering services over the Internet.

Boucher's bill amends the National Science Foundation Act of 1950 (42 USC 1862) to read "the Foundation is authorized to foster and support the development and use of computer networks which may be used substantially for purposes related to research and

education in the sciences and engineering, if the additional uses will tend to increase the overall capabilities of the networks to support such research and education activities."

This rewording offers the NSF a fairly wide latitude in allowing commercial traffic on the network. An identical provision is attached to a NASA reauthorization bill pending in the Senate.

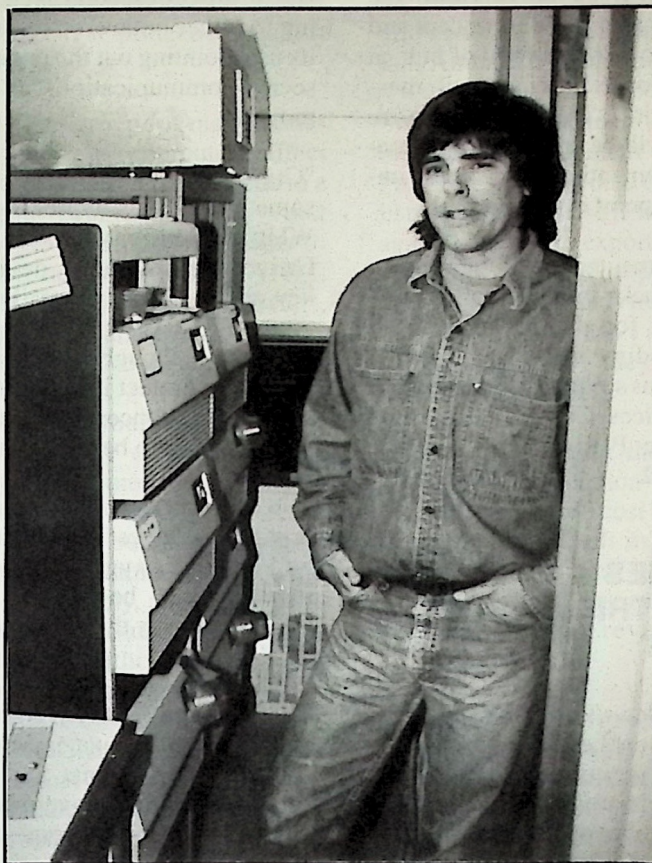
EDUCATIONAL DISCOUNT FOR TEAMmb UNIX BBS SOFTWARE

MMB Development Corporation has announced a dramatic discount on their TEAMmb BBS software for UNIX for qualified educational institutions. These institutions will only have to pay the software support and maintenance fee of 15% of purchase price per year for a license to the package - as little as \$300.

The annual fee is based on the commercial license price which depends on the number of simultaneous users, options,

and hardware platform. As an example, a 32 user license for a SUN workstation with full text retrieval would normally cost about \$5500 plus \$825 per year for support and maintenance. Under the educational discount, the \$5500 fee is waived entirely and the educational institution pays only the \$825 annual support and maintenance fee.

To qualify, you must be a non-profit educational institution and your TEAMmb installation must be connected to the Internet. TEAMmb software operates under the UNIX operating system and is available for Intel, SUN, HP, IBM, Sequent, AT&T, Data General, and DEC systems. MMB Development has been enjoying increased attention recently with the move to put BBS systems on the usually UNIX-based hosts on the Internet. This was the software used on Supercomputing Review's system we reviewed in our June issue. For more information, contact Bob Baskerville, MMB Development Corporation, (800)832-6022 voice; (310)318-2162 fax.



Cliff Figallo - Late of Whole Earth 'Lectronic Link.

CHANGES AT THE WELL

The Whole Earth 'Lectronic Link, popularly known as **THE WELL** is undergoing some changes. The WELL has developed a following from their home in Sausalito California in the back room of the offices of the Whole Earth Magazine. Currently, over 6000 subscribers support the system to the tune of some \$1.2 million per year and it's developed a reputation as the place to be for spirited discourse on the topics of the day.

The service runs on a Sequent mini-computer under an operating system strongly patterned after UNIX. Over a year ago the system connected to the Internet for electronic mail through a connection with **BARRnet**, a regional network service provider serving the Bay area. Internet mail users could address mail to user@well.sf.ca.us. The system has also made a connection via the Internet for telnet access. WELL subscribers can connect to the service through the Internet by entering [telnet well.sf.ca.us](telnet:well.sf.ca.us) or [telnet 192.132.30.2](telnet:192.132.30.2). This eliminates the cost of long distance calls or CompuServe connect charges.

It does however, pose some technical problems with regards to system loading. The ethernet connections caused considerably more loading of the CPU than originally envisioned. As a result, system reliability went into a tailspin. General Manager Cliff Figallo needed to upgrade the Sequent with more processors and memory as well as disk storage. But the Board of Directors proved intransigent on investing money to upgrade the system. The result was that WELL staffers were receiving constant complaints from the user community, and were unable to address the problem - the classic formula for "one of those headaches you can see."

The end result was an exodus of WELL staff from the service. Nancy Rhine, John Hoag, and John Coates all bailed in frustration. John Coates has gone on to work with the 101 online service in San Francisco. And this past April 15th, Figallo announced his resignation from his \$60,000 General Manager position effective July 15. Rumor has it that Figallo has been offered a position as Director of the Electronic Frontier Foundation's Cambridge office.

Apparently the defections had an impact. Veteran WELLbeing **Maurice Weitman** (mo@well.sf.ca.us) was named General Manager. The board has developed a goal of taking the WELL to a \$5 million per year annual gross. The upgrades have been accelerated and the system is now offering **ftp** and **telnet** access to the Internet as well. They also raised the basic monthly charge from \$10 per month to \$15 - a 50 % increase. There is also a \$2 hourly access fee. It remains to be seen whether this will cause a general bailout of the membership as well. But with full Internet ftp/telnet/e-mail access, some might consider the fee a bargain. **THE WELL**, 27 Gate Five Road, Sausalito, California, 94965; (415)332-7190 data; (415)332-4335 voice; (415)332-1669 fax.

PRODIGY TO JOIN INTERNET

Prodigy legal counsel George Perry noted at a recent meeting the company's plans to link up to the Internet. Accord-

ing to spokesperson Steve Hein, the company is working on the concept and they do want to do some form of link, at a minimum for electronic mail messages worldwide. To what degree an Internet link will be forged, and a timetable for implementing it, is largely unknown at this point even internally.

There are some technical hurdles to overcome to make Internet mail, for example usable for the generally non-technical Prodigy audience. Prodigy currently claims some 1.6 million users. Prodigy Services Co., 445 Hamilton Ave., White Plains, NY 10601; (914)993-8892.

DOW JONES NEWS/RETRIEVAL ON INTERNET

Dow Jones News/Retrieval Service is now available on the Internet. DJNRS is a commercial service providing current stock quotes, historical quotes, and an immense database of investment information online. Callers normally access the service through direct dial up or an X.25 network. Internet users can now access the service using telnet at high speeds by entering telnet djnr.dowjones.com. The WHAT SERVICE PLEASE prompt should appear. Enter DJNR and press ENTER. An ENTER PASSWORD prompt will then appear. Callers must enter their normal DJNS account password.

FBI SEEKS TO OUTLAW CRYPTOGRAPHY

By JOE ABERNATHY
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Houston Chronicle

Government police and spy agencies are trying to thwart new technology that allows conversations the feds can't tap.

A form of cryptography - the science of writing and deciphering codes - this technology holds the promise of guaranteeing true privacy for transactions and communications.

But an array of federal agencies is seeking to either outlaw or severely restrict its use, pointing out the potency of truly secret communications as a criminal tool.

"Cryptography offers or appears to offer something that is unprecedented," said Whitfield Diffie, who with a Stanford University colleague devised public key cryptography, an easily used cryptography that is at the center of the fight. "It looks as though an individual might be able to protect information in such a way that the concerted efforts of society are not going to be able to get at it."

"No safe you can procure has that property; the strongest safes won't stand an hour against oxygen lances. But cryptography may be different. I kind of understand why the police don't like it."

The National Security Agency, whose mission is to conduct espionage against foreign governments and diplomats, sets policy for the government on matters regarding cryptography.

But the FBI is taking the most visible role. It is backing legislation that would address police fears by simply outlawing any use of secure cryptography in electronic communications.

The ban would apply to cellular phones, computer networks, and the newer standard telephone equipment - already in place in parts of Houston's phone system and expected to gain wider use nationwide.

"Law enforcement needs to keep up with technology," said Steve Markardt, a spokesman for the FBI in Washington. "Basically what we're trying to do is just keep the status quo. We're not asking for anything more intrusive than we already have."

He said the FBI uses electronic eavesdropping only on complex investigations involving counterterrorism, foreign intelligence, organized crime, and drugs. "In many of those," he said, "we would not be able to succeed without the ability to lawfully intercept."

The State and Commerce departments are limiting cryptography's spread through the use of export reviews, al-

though many of these reviews actually are conducted by the NSA. The National Institute of Standards and Technology, meanwhile, is attempting to impose a government cryptographic standard that critics charge is flawed, although the NSA defends the standard as adequate for its intended, limited use.

"It's clear that the government is unilaterally trying to implement a policy that it's developed," said Jim Bidzos, president of RSA Data Security, which holds a key cryptography patent. "Whose policy is it, and whose interest does it serve? Don't we have a right to know what policy they're pursuing?"

Bidzos and a growing industry action group charge that the policy is crippling American business at a critical moment.

The White House, Commerce Department, and NIST refused to comment.

The NSA, however, agreed to answer questions posed in writing by the Houston Chronicle. Its purpose in granting the rare, if limited, access, a spokesman said, was "to give a true reflection" of the policy being implemented by the agency.

"Our feeling is that cryptography is like nitroglycerin: Use it sparingly then put it back under trusted care," the spokesman said.

Companies ranging from telephone service providers to computer manufacturers and bankers are poised to introduce new services and products including cryptography. Users of electronic mail and computer networks can expect to see cryptography-based privacy enhancements later this year.

The technology could allow electronic voting, electronic cash transactions, and a range of geographically separated - but secure - business and social interactions. Not since the days before the telephone could the individual claim such a level of privacy.

But law enforcement and intelligence interests fear a world in which it would be impossible to execute a wiretap or conduct espionage.

"Secure cryptography widely available outside the United States clearly has an impact on national security," said the NSA in its 13-page response to the Chronicle. "Secure cryptography within the United States may impact law enforcement interests."

Although Congress is now evaluating the dispute, a call by a congressional advisory panel for an open public policy debate has not yet been heeded, or even acknowledged, by the administration.

The FBI nearly won the fight before anyone knew that war had been declared. Its proposal to outlaw electronic cryptography was slipped into another bill as an amendment and nearly became law by default last year before civil liberties watchdogs exposed the move.

"It's kind of scary really, the FBI proposal being considered as an amendment by just a few people in the Commerce Committee without really understanding the basis for it," said a congressional source, who requested anonymity. "For them, I'm sure it seemed innocuous, but what it represented was a fairly profound public policy position giving the government rights to basically spy on anybody and prevent people from stopping privacy infringements."

This year, the FBI proposal is back in bolder, stand-alone legislation that has created a battle line with law enforcement on one side and the technology industry and privacy advocates on the other.

"It says right on its face that they want a remote government monitoring facility" through which agents in Virginia, for instance, could just flip a switch to tap a conversation in Houston, said Dave Banisar of the Washington office of Computer Professionals for Social Responsibility.

Though the bill would not change existing legal restraints on phone-tapping, it would significantly decrease the practical difficulty of tapping phones - an ominous development to those who fear official assaults on personal and corporate privacy.

And the proposed ban would defuse emerging technical protection against those assaults.

CPSR, the point group for many issues addressing the way computers affect peoples' lives, is helping lend focus to a cryptographic counterinsurgency that has slowly grown in recent months to include such heavyweights as AT&T, DEC, GTE, IBM, Lotus, Microsoft, Southwestern Bell, and other computer and communications companies.

The proposed law would ban the use of secure cryptography on any message handled by a computerized communications network. It would further force service providers to build access points into their equipment through which the FBI - and conceivably, any police officer at any level - could eavesdrop on any conversation without ever leaving the comfort of headquarters.

"It's an open-ended and very broad set of provisions that says the FBI can demand that standards be set that industry has to follow to ensure that (the FBI) gets access," said a congressional source. "Those are all code words for if they can't break in, they're going to make (cryptography) illegal."

"This is one of the biggest domestic policy issues facing the country. If you make the wrong decisions, it's going to have a profound effect on privacy and security."

The matter is being considered by the House Judiciary Committee, chaired by Rep. Jack Brooks, D-Texas, who is writing a revision to the Computer Security Act of 1987, the government's first pass at secure computing.

The recent hearings on the matter produced a notable irony, when FBI Director William Sessions was forced to justify his stance against cryptography after giving opening remarks in which he called for stepped-up action to combat a rising tide of industrial espionage. Secure cryptography was designed to address such concerns.

The emergence of the international marketplace is shaping much of the debate on cryptography. American firms say they can't compete under current pol-

icy, and that in fact, overseas firms are allowed to sell technology in America that American firms cannot export.

"We have decided to do all further cryptographic development overseas," said Fred B. Cohen, a noted computer scientist. "This is because if we do it here, it's against the law to export it, but if we do it there, we can still import it and sell it here. What this seems to say is that they can have it, but I can't sell it to them - or in other words - they get the money from our research."

A spokeswoman for the the Software Publishers Association said that such export controls will cost \$3-\$5 billion in direct revenue if left in place over the next five years. She noted the Commerce Department estimate that each \$1 billion in direct revenue supports 20,000 jobs.

The NSA denied any role in limiting the power of cryptographic schemes used by the domestic public, and said it approves 90 percent of cryptographic products referred to NSA by the Department of State for export licenses. The Commerce Department conducts its own reviews.

But the agency conceded that its export approval figures refer only to products that use cryptology to authenticate a communication - the electronic form of a signed business document - rather than to provide privacy.

The NSA, a Defense Department agency created by order of President Harry Truman to intercept and decode foreign communications, employs an army of 40,000 code-breakers. All of its work is done in secret, and it seldom responds to questions about its activities, so a large reserve of distrust exists in the technology community.

NSA funding is drawn from the so-called "black budget," which the Defense Budget Project, a watchdog group, estimates at \$16.3 billion for 1993.

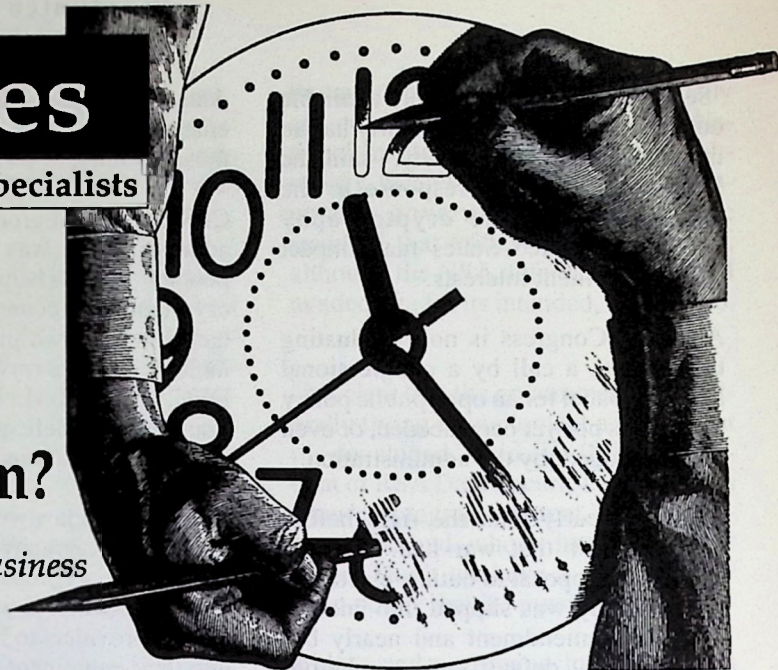
While the agency has always focused primarily on foreign espionage, its massive eavesdropping operation often pulls in innocent Americans, according to James Bamford, author of "The Puzzle Palace," a book focusing on the

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NSA's activities. Significant invasions of privacy occurred in the 1960s and 1970s, Bamford said.

Much more recently, several computer network managers have acknowledged privately to the Chronicle that NSA has been given access to data transmitted on their networks - without the knowledge of network users who may view the communications as private electronic mail.

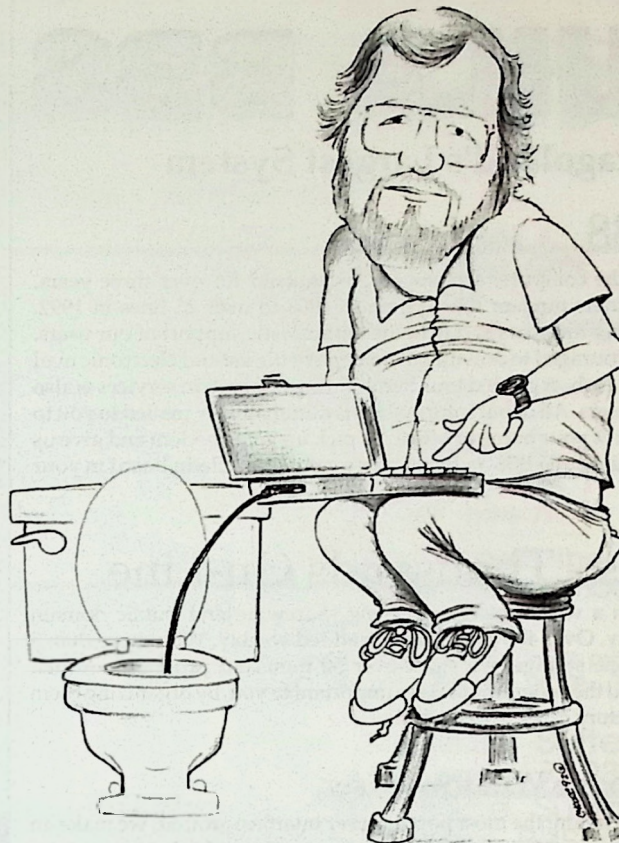
Electronic cryptology could block such interceptions of material circulating on regional networks or on Internet - the massive international computer link. While proponents of the new technology concede the need for effective law enforcement, some question whether the espionage needs of the post-Cold War world justify the government's push to limit these electronic safeguards on privacy.

"The real challenge is to get the people who can show harm to our national security by freeing up this technology to speak up and tell us what this harm is," said John Gillmore, one of the founders of Sun Microsystems.

"When the privacy of millions of people who have cellular telephones, when the integrity of our computer networks and our PCs against viruses are up for grabs here, I think the battleground is going to be counting up the harm and in the public policy debate trying to strike a balance."

But Vinton Cerf, one of the leading figures of the Internet community, urged that those criticizing national policy maintain perspective.

"I want to ask you all to think a little bit before you totally damn parts of the United States government," he said. "Before you decide that some of the policies that in fact go against our grain and our natural desire for openness, before you decide those are completely wrong and unacceptable, I hope you'll give a little thought to the people who go out there and defend us in secret and do so at great risk."



Phil Zimmermann - Pretty Good Privacy

CRYPTOGRAPHY - PRETTY GOOD PRIVACY VERSION 2.0 - FREE DATA ENCRYPTION SOFTWARE

by Jack Rickard

The FBI's assault on cryptography comes as no surprise to Philip Zimmermann, a Boulder Colorado consultant. Zimmermann developed a data encryption package based on the Rivest-Shamir-Adleman encryption algorithm over a year ago and released it, complete with source code, into the public domain. Titled Pretty Good Privacy, the program has spread internationally since then.

The program allows users to encrypt e-mail messages or other data using the most secure encryption algorithm known on the planet. This point is somewhat important, and likely to become more so in the future. The original patent for the RSA (Rivest-Shamir-Adleman) encryption algorithm was awarded to the Massachusetts Institute of Technology - patent 4,405,289 issued 20 September 1983. They passed it on to a company titled RSA Data Security to actually market the technology. A

spinoff of RSA is a company titled Public Key Partners (PKP). Public Key Partners holds the exclusive commercial license to sell and license the system. PKP is not a software firm. They produce nothing of note. They are a litigation company. Their sole function in life is to license the RSA patent to software companies, and sue the bejeesus out of anyone that does anything similar. The company has purchased the patents on three similar encryption technologies and apparently intends to own, for litigation and licensing purposes, the data encryption market.

Encryption programs are a bit odd in that they are unassailable until someone cracks them, and pretty much worthless afterwards. The security package used by Word Perfect, for example, has apparently been cracked. And Adi Shamir (the S in RSA) is rumored to have cracked the NIST Data Encryption Standard (DES) that has long been used in the federal government.

Meanwhile, the PGP cat is pretty much out of the bag. The program was widely traveled as a result of our original article on the program in August 1991. An international volunteer group of software

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The AQUILA BBS Team (Left to right: Kevin & Kristy Behrens, Steve Williams, Chris Babb)

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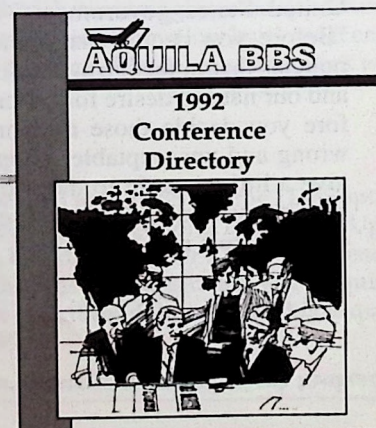


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engineers, headed by Peter Gutmann of Auckland New Zealand, and including an enthusiastic team from France, has taken the source code and set to work on improvements for a Version 2.0 release of the program, with Zimmermann providing design direction. This team includes software designers from all over Europe. By having the actual code written largely outside of the United States, and not personally distributing copies of the resulting program, Zimmermann hopes to avoid legal responsibility for the patent infringement. The situation is so confused by concerns about legal action, and our conversations with Zimmermann so equivocal, we can't really tell who's writing what where. But we are assured by Zimmermann that a version 2.0 will be released about July 15 of this year.

The new version will provide a much improved key management database, faster compression and encryption, and will incorporate a couple of dozen user suggestions providing minor ease-of-use enhancements. As the result of BBS operator input, the program will have a

batch mode that returns error codes allowing a BBS to automatically encrypt/decrypt e-mail messages unattended.

Our August article also implied a lengthy process to encrypt/decrypt messages. Actually, while it can take awhile to initially create your own key, this is a one-time process. The process of encrypting and decrypting messages takes just a few seconds. This has to do with the way RSA is used. The message itself isn't really encrypted using the RSA algorithm.

In the usual cryptographic scenario, two people pass encrypted messages between them. They share a private "key" or decoding algorithm that can be used to code and decode messages. The problem is that in a practical world, the key has to be transmitted as well in one fashion or another. And if a third party intercepts the key, they can also intercept the messages. No matter how mathematically pure and unassailable the encryption algorithm is, the key can be intercepted and the whole exercise is

pointless. Worse, it can be dangerous in that you have an inordinate sense of security that simply isn't there.

What PGP does, as do virtually all RSA-based encryption programs, is use a conventional encryption algorithm to encrypt the message text, and then uses RSA to encrypt and enclose the conventional key. This provides maximum protection for the key, and a reasonable amount of speed in the processing of the message itself.

Why not just encrypt the message with RSA? Speed. To take a 10K e-mail message as an example, a good implementation of the RSA algorithm would require about 6.5 minutes on a 25 MHz 80386 machine to decrypt the message. In the coming version 2.0 of Pretty Good Privacy, they actually use an algorithm developed at a University in Switzerland (ETH Zurich) titled the International Data Encryption Algorithm (IDEA) to encrypt/decrypt the message text. On the same hardware, you can figure roughly one second per kilobyte to decrypt text. Obviously this becomes

a critical difference on larger files of several hundred kilobytes or perhaps megabytes.

So what about the RSA key to the key? PGP uses a concept termed Public Key Encryption. The dynamics of public key encryption are a little different. The key to ENCRYPT data is DIFFERENT from the key used to DECRYPT it. To secure data, you must first generate two "keys" - a **public** key and a **private** key. The size of these keys is important. With what was previously considered mainframe computing power on the desks of eight-year-olds now, simple encryption algorithms can easily be broken by computer. Larger keys are much harder to break. At some size, it requires today's supercomputer iron weeks or months to break the encryption - rendering the economics of the exercise impractical. Where privacy is important, you would want very large keys. Where it is not so important, smaller keys would be more convenient.

Basically, you publish your public key and keep your private key VERY private. Anyone can use your public key to ENCRYPT a message and send it to you. Once encrypted, even THEY can't decrypt it. The only way a message generated with your **public** key can be recovered, is by using your **private** key. And you're the only one who has one. In this way, you don't care if someone intercepts your public key. In fact, the more people who have it, the better. Anyone can send you an encrypted message, but you're the only one that can read them.

To exchange messages with another person, they must have your public key to send you messages, and you must have their different public key to send them messages. Additionally, each of you must have your own private keys to decode messages. If there were four or more people involved, the number of keys becomes somewhat larger. PGP addresses this with a set of key databases they term "key rings" and they do make it possible to fairly readily manage a host of public and private keys. Access to the private keys is even passworded on your computer system for additional security.

In PGP, keys are generated using random numbers developed by timing the delay between key presses on the keyboard. To send a message, you start with a plain text file message. PGP compresses the message using techniques very similar to the PKZIP program popular on bulletin boards. This data compression thoroughly further complicates the job of decrypting messages by those who don't have the proper private key, and as an additional benefit, the resulting message is smaller as well.

To encrypt an e-mail letter in the file **LETTER.TXT** for example, using George Jone's public key, you would simply enter the command **pgp -e letter.txt George_Jones**. The program compresses **LETTER.TXT**, encrypts it using the IDEA algorithm, searches the public key ring for George's public key, and then encrypts the IDEA key into the file **LETTER.CTX**. using the RSA algorithm.

To decrypt this e-mail letter, George would enter **pgp letter.ctx letter.txt** to decrypt **LETTER.CTX**. PGP uses George's PRIVATE key to RSA decrypt the IDEA key and the IDEA key to decrypt the message - placing the resulting message in the **LETTER.TXT** file. Note that **LETTER.CTX** contains instructions for locating the necessary private key on George's private key ring automatically.

Aside from encryption, there are other security issues facing the online world. The most pressing is digital authentication. When you receive a message from someone, how do you know it's really from them? And if you do know, how do you prove it to anyone else - i.e. a court of law.

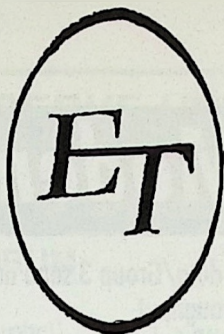
In theory, you could simply reverse the encryption process. If you use your PRIVATE key to ENCRYPT a message, and if anyone with your PUBLIC key could decrypt the message, then the message could only have come from you. You could give anyone and everyone your public key, and again only you would have the private key necessary to "sign" your electronic correspondence.

In practice PGP actually does make provision for message authentication, but in a slightly more elegant fashion. For any particular message, it will create an

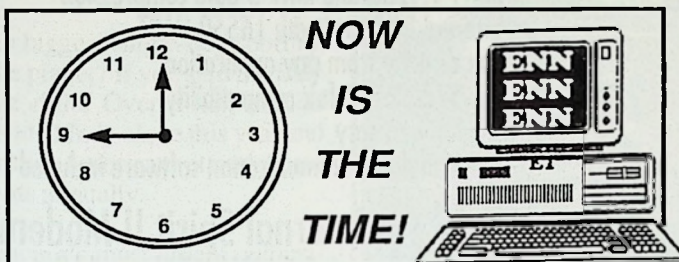
electronic signature based on the contents of the message file. This signature is something like a checksum created by mathematically adding the values of all characters in the message into a single byte and throwing away any of the overflow. The number would be meaningless, but it could only be produced using the same message text. Actually, PGP uses a more advanced form of this concept with a hashing technique termed **Message Digest 5**. For those really interested, this is more similar to a cryptographically strong 128-bit Cyclic Redundancy Check (CRC) algorithm and produces a 16-byte signature. The resulting signature is then encrypted using the RSA algorithm and your private key.

When the recipient receives your message, they use PGP to check authentication. PGP first uses your public key to decrypt the signature. Basically, if it can decrypt the signature with your public key, you must have sent it. But further, it then independently calculates the Message Digest signature from the message text and compares the result with the decrypted signature it received. If they are the same, the message not only came from you, but it contains precisely the text you wrote - without change or modification. If the recipient should alter this text to make your promise to pay \$500 into a promise to pay \$50,000 for example, any independent authority could use PGP to re-authenticate the message and determine that the resulting calculated signature did NOT match the signature you sent with the message. The length of the message digest ensures that there is no way the text could be changed to come up with the same signature if even a single character were added, deleted, or changed in the message.

While the new version of PGP makes key management a bit easier, this remains quite a bit of trouble just to send an e-mail message. And there are some further questions-regarding security in the real world online. What if someone publishes THEIR public key and tells everyone it's YOURS. Messages ostensibly sent to you could then be intercepted by them and decrypted. They could even re-encrypt the messages using your REAL public key and you



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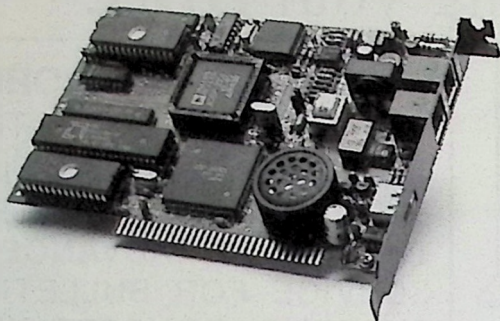
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wouldn't even be aware it had been intercepted. Nobody said the cloak and dagger world would be easy.

Actually, PGP even makes provisions for handling this. You have some other third party authenticate YOUR public key with THEIR digital signature. In fact, you could have lots of other people authenticate your public key with their signatures and as long as someone had one of THEIR public keys, they could then verify that YOUR public key was really yours. Sounds complicated? Well, yeah it is. But PGP isn't alone. This is the state of most e-mail encryption software, including RSA's own products.

And at least to a minor degree, encryption is catching on. At least one BBS requires you to use the program. Operation Hacker Storm in Amsterdam, The Netherlands, (011 31 22 306 0551) requires you to post your public key within two weeks of logging on if you want continued access. Quite likely, all

the Kings Horses and All the Kings Men can't read the e-mail on this BBS, court warrant or not.

The new version of PGP for MS-DOS will be released in late July, 1992 as **PGP20.ZIP** containing the executable files and documentation. The source code will likewise be available as **PGP20SRC.ZIP**. Versions of the program will also be released for other platforms including Unix, Amiga, and VAX VMS machines. Gutmann will make the files available by Internet ftp from Auckland, New Zealand. To get the latest version, ftp [kauri.vuw.ac.nz](ftp:kauri.vuw.ac.nz) and cd to `/pub/ms-dos/Encryption` to locate the files. Gutmann can be reached at pgut1@cs.aukuni.ac.nz. Here in the U.S., the program will also be available from Zhahai Stewart's Adelante BBS at (303)443-8292.

So an improved version of the RSA algorithm is available as free software despite the vigorous legal threats of Public Key Partners AND the legislative efforts of the FBI. And most of the development team is pretty much safely

out of range in New Zealand and Europe. Developers interested in legitimately producing data encryption products using the RSA algorithm might be interested in a product from RSA titled **BSafe**. This is a \$495 toolkit package with executable modules to perform the encryption/decryption feat. Of course, if you develop a product, you also gain the dubious advantage of paying RSA a license fee for each copy of your product that you sell. The company also sells an e-mail package titled **MAILSAFE** at \$125 to accomplish essentially the same function as Pretty Good Privacy. RSA Data Security, 10 Twin Dolphin Drive, Unit B-406, Redwood City, CA 94065; (800)782-5453.

Philip Zimmermann can be reached at Boulder Software Engineering, 3021 Eleventh Street, Boulder, CO 80304; (303)444-4541 voice; Internet: prz@sage.cgd.ucar.edu.

COMPUERVE-UPS

MICHAEL HOLLANDER'S RACING FORUM

By Becky J. Campbell

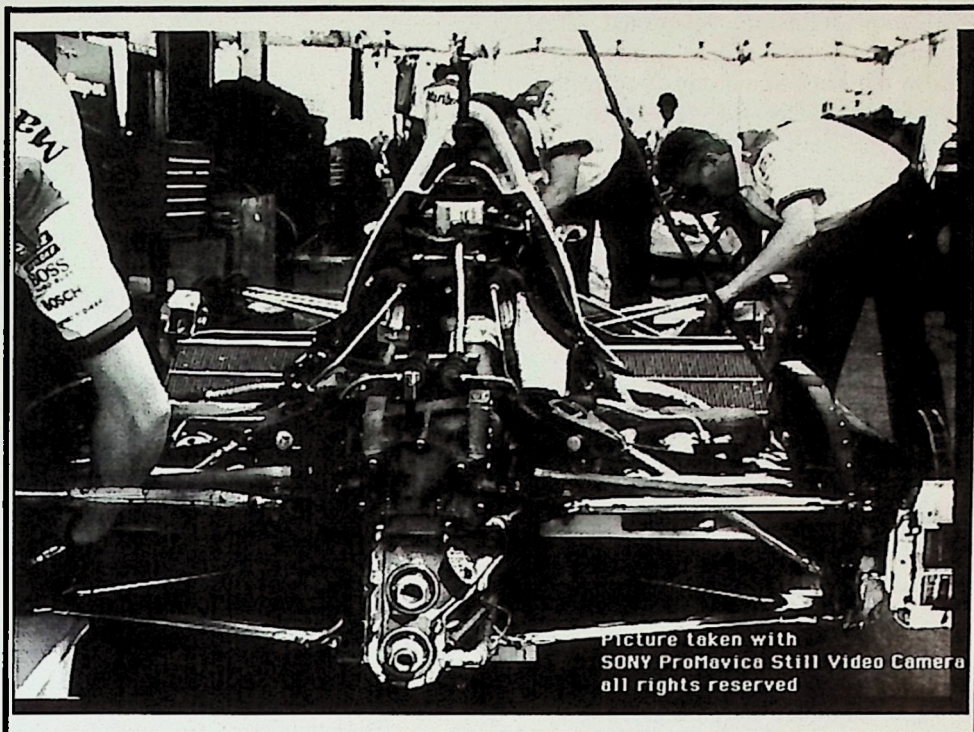
What is the biggest single-day sporting event on the planet? If you said the Indy 500, you're right. Over a half-million people attended Indy alone this year and over 62 million Americans attend motor racing events annually.

But even racing's most ardent enthusiasts can't make all of them in person. And Michael Hollander has a solution. In 1983, Michael saw a need and an opportunity, and decided his interests in computers, telecommunications and journalism were just the right combination to bring wider coverage to racing fans, even though Michael is not a big fan himself. One of his projects is the Racing forum on CompuServe.

If you visit the Racing forum on CompuServe (GO RACING) you will find the conversation and library material about what you would expect in such a forum. There are national television schedules for the weeks' racing coverage, starting line-ups for the major events, information on fuels, tires, and travel information about the areas where events are held.

But there is one unique feature that sets this forum apart from other CompuServe forums. The Racing forum has a cadre of reporters who attend each of the major events (and some of the minor ones). These reporters carry laptops instead of microphones and some of their reports are so good you can actually hear an announcer's voice in your ear and visualize the action on the track as you read them. Read part of Steve Seely's report from Fay's 150 NAS-CAR Busch Grand National race at Watkins Glen International on June 27th:

"Watkins Glen - RIS - On lap 55, Bill Elliott pulls off course at turn 5, the entrance to the loop. Seconds later, the yellow flag comes out again as Spencer



Picture taken with
SONY ProMavica Still Video Camera
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hits the barrier in turn 9 and Petty Moise and Mike McLaughlin get together nearby.

Looks like this race may finish under caution. ...No, the one to go signal has been given on lap 58.

Preliminary report on Elliot is that the fuel pump gave out."

So on race days, whether car or motorcycle, members log in regularly to get their racing coverage fix, sometimes while watching the event on television. Reports are filed about every 25 laps, and the reporters are in a position to fulfill requests from forum members in real time - everything from the exact pit locations of each team to the radio frequencies used by the racing teams. This type of interactive reporting is something beyond the reach of television coverage.

Michael formed a company titled Racing Information Systems (RIS) to handle business matters associated with operating the forum, including issuing press credentials to the forum members attending the race. Only two of the "regular" reporters are professional journalists, the others, including Steve Seely, are amateurs.

Working under the umbrella of RIS gives the Racing forum clout. They can access the Marlboro Sports Data System Information Service (MSDSIS) in Milan, Italy, and have permission to reuse the information, which includes up-to-the-minute reports on Formula One races. Software Italia owns MSDSIS and limits access to journalists only - at a registration fee of \$100/yr. Callers access the system either directly by long-distance telephone call to Italy or through an international X.25 packet network titled Infonet.

The MSDSIS relational database contains a complete history on every Formula One race since 1950. Information is cross-referenced by driver, race, track, fatality, etc. (MSDSIS, Agnes Carlier; Marlboro EEC; Lausanne, Switzerland).

RIS is also working with Sony on digital photographic techniques. We downloaded SONY1.GIF from library 4 in the Racing forum. This photo was taken with a ProMavica Still Video camera and we all oh'ed and ah'ed over the startling clarity. This is what GIF's should be. Photos of "Man Working On Engine With Wrench" never fail to excite. But the digital photographic technique is clearly the next evolutionary step in the graphics arena.

As Parker Johnstone is quoted after winning a tough race: "Some days you're the bug. Some days you're the windshield. Today, we were the windshield." It looks like CompuServe's Racing forum is the windshield in the electronic motor sports world today. Michael Hollander, CompuServe userid 76703,771 or (310)374-3750 (voice). CompuServe Information Service - 800-848-8990 (voice).

LEGALLY ONLINE

THE BOY WHO CRIED WOLFENSTEIN

by Lance Rose

A new computer adventure game has stirred up some troubling legal issues for BBSs operating interstate and internationally. In May, Apogee Productions released the shareware version of a computer game named Wolfenstein 3D. As usual for shareware, Apogee uploaded the program to a number of popular BBSs. The game proved instantly popular, mainly due to its use of three dimensional, moving graphic images that make users feel physically immersed in the game. There were also some negative reactions to its subject matter: you're trapped in the dungeon of a Nazi compound during World War II, and you must shoot and stab your way to freedom several levels above. Along the way, you're treated to state-of-the-art three dimensional pictures of human guards and guard dogs dying at your hands, with images of swastikas and Adolf Hitler on the walls all around you.

Shortly after Wolfenstein 3D was released, its German distributor informed Apogee that the program probably violated German law, based on its use of Nazi symbolism, particularly the swastikas. Word of this spread online, and immediately caused a small furor among callers. On CompuServe, most of the sysops with Wolfenstein in their download areas immediately removed it based on its rumored illegality. Meanwhile, Apogee itself indicated it had no interest in stopping distribution, since it was "getting too many orders from Ger-

many". The file may have been illegal, but Apogee would ride it for all the profits it was worth.

Despite Apogee's surging sales, many callers to CompuServe and other systems were getting cut off from access to the game, based on the vague reports of illegality. But wait a minute - was Wolfenstein 3D actually banned in Germany? It seems not. Apogee says there is no such ban. Don Watkins, the IBMNET sysop on CompuServe, hired a German lawyer on his own to look into the question. He too heard there was no ban.

However, Watkins' lawyer also reported back that there is a German statute, Section 86a StGb, that makes it a criminal offense to sell or import materials displaying swastikas or other Nazi symbols. It is based on a provision placed in the German constitution by the conquering Allies at the end of World War II, to prevent the Germans from perpetuating their Nazi past. Apparently the statute has been used for such things as keeping the film "The Sound of Music" out of Germany, among other important purposes. So there is no ban in Germany as we go to print, but the German government po-

tentially could take exception to Wolfenstein 3D at any time and expressly declare it illegal.

Many online callers were concerned over what they saw as the attempts of CompuServe and the German government, either separately or together, to "censor" Wolfenstein 3D. They also viewed it mainly as a problem for the international distribution of shareware and other software. But the questions raised by the Wolfenstein situation are far broader. They apply to all BBSs that cross state or national boundaries, whether they are based here in the U.S. or abroad.

The problem is certainly not limited to exotic German laws outlawing Nazi imagery. It is all too easy to imagine future cases where a file on a BBS might be deemed legally suspect under one state's or nation's laws on gambling, exports, imports, taxes, libel, rights of privacy, copyrights, moral rights, obscenity, and so on, while being perfectly legal under the laws of all the other states and nations inhabited by the BBS's various callers.

Similarly, the claimed illegal material on a BBS may not be a computer game, shareware, or a program of any kind. Laws can be broken just as easily by



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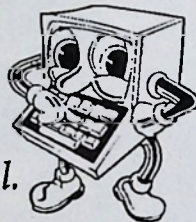
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information contained in text files, e-mail, public postings, graphic files, sound files and animation files. In addition, there are various kinds of illegality. Violating personal rights, such as the right of privacy or the right against defamation, can lead to a lawsuit for money damages in civil court. Criminal violations can lead to fines and jail terms. Then there are cases like the one involving Wolfenstein 3D - a potential criminal violation, but absolutely no action to date by the government of Germany. This creates an entirely ambiguous situation for sysops - the file on the BBS seems to be technically illegal under the law, but in the absence of government action, is there anything wrong with distributing it?

Sysops naturally are apprehensive that by making materials that are illegal under the laws of a foreign country available on their BBSs, they are exposing themselves directly to legal action. In truly international BBSs like CompuServe, which has significant caller bases in 40 or more countries, this is a very serious concern. At the same time, there are obvious limits. A sysop of a local BBS in Omaha, Nebraska receiv-

ing one long-distance call per year from Mali will not lose sleep over whether the files on the system violate Mali law. But some sysops also don't want to make materials available on their system that they feel are offensive to the cultures of their foreign callers. For an extreme example, consider making an online version of The Satanic Verses accessible on a BBS frequented by Muslim callers.

Some readers may be wondering whether sysops are protected from liability under the holding of the Cubby v. CompuServe case, discussed in this column in the December, 1991 issue of Boardwatch. In that case, a federal court held that CompuServe, as a BBS, could not be sued for distributing certain libelous materials on its system; CompuServe was only a distributor of materials created by others, and would not be legally required to monitor everything going through the system.

Yes, the Cubby case would excuse sysops from responsibility for materials illegal under foreign laws in some cases, but it has important limitations. First of all, the holding in Cubby does

not apply where the sysop knows about the file that is claimed to be illegal; it only applies where the sysop is unaware of the file in question, or is unaware that it may be illegal. Second, Cubby is based on the First Amendment protection of BBSs as valued promoters of freedom of speech in the U.S. Unfortunately, as pointed out a while back by John Barlow of the Electronic Frontier Foundation, the First Amendment is only a "local ordinance" of the U.S., and will not protect BBSs based in other countries (or foreign BBSs affiliated with U.S. BBSs).

Due to their legal exposure and cultural concerns, many sysops faced with the problem of materials illegal under the laws of some of their foreign callers will do what most of the CompuServe sysops did: pull the materials from the system. This creates a far bigger problem in the eyes of many callers: if materials on a cross-jurisdiction BBS seem to violate the laws of one of the countries in which callers to that BBS reside, all other callers may find themselves denied access to that same material by the sysop, even if the material is perfectly legal in those callers' own countries. BBSs operating in this way will end up being governed by the most restrictive law in any country or state where it has a lot of callers. This does not make callers happy. Many view it as intrusive censorship by the sysop and denial of their own legal rights to have access to the withdrawn materials. They may also be motivated to seek other, less restrictive BBSs.

How can sysops avoid these problems - what are their options? One approach is to keep the material on the BBS, and post a warning to all callers from the particular country or state where it may be illegal that they should not download the material. This keeps the material perfectly available to all callers for whom it is legal. It also makes the foreign callers take full responsibility for their own actions if they download the illegal material despite the clear warning not to do so. This exact approach was actually used by the sysops of the UKSHARE forum on CompuServe, the lone forum in which Wolfenstein remained available after its possible illegality under German law became known.

This approach is the most attractive both for furthering sysop rights to control their own BBSs, and maximizing legal caller access to BBS materials. It requires little or no restructuring of the BBS merely to avoid legal problems. There is a lingering question, though: would the national or state laws of certain callers put obligations on a sysop to go beyond warnings, and remove access by those callers to illegal materials entirely? Probably not in the U.S. with its strong First Amendment tradition of freedom of the press. But would other countries, with varying degrees of respect for this freedom, respect a U.S. BBSs freedom to distribute materials without restriction in an international setting?

Another alternative for the sysop is to remove the material upon hearing of its possible illegality in another state or country, and investigate whether it is actually illegal. This is standard operating procedure for Don Watkins, the CompuServe sysop. If it turns out the file really is damaging or illegal, it stays off the system. If the sysop decides the claim was a false alarm, the file goes back up on the BBS. The rationale behind this approach is twofold. First, it helps the sysop avoid risks by cutting them off as early as possible, and keeping the file off the system until the sysop is sure the coast is clear. Second, and this part is important for Don, it is also a way of respecting the laws of the various countries that callers may be calling in from.

This approach is not bad, but it has certain problems. It biases the system toward removing files in case of doubt, and will tend to slow down message traffic while the background investigation proceeds. Realistically, sysops won't be able to resolve many legalistic questions in an hour or a day; the probable time frame is more like weeks or a month or two. The material remains unavailable during this time, even if it turns out to be perfectly legal. Unscrupulous callers can also take advantage of this approach to bury materials posted by other callers to a BBS. And many sysops simply will not have the resources to investigate legal problems. Especially where, as here, they involve the laws of foreign jurisdictions; local lawyers may be little or no help, requir-

ing a search even by well-heeled sysops just to find a lawyer who can look into the question.

In addition, the question of respect for the laws of other countries and states is a double-edged sword. If you remove a file from a BBS out of respect for the laws of one country or state in which that file is illegal, you are also denying callers from all other countries and states their legal right to access to that file under the laws of their own countries. In practice, the shackles imposed by restrictive countries on their citizens would prevail over the freedoms accorded to the citizens of other countries.

Another possibility is to simply remove the questionable file without investigation. This certainly cuts the sysop's legal exposure, but results in a highly arbitrary standard for removing files: whenever someone says a file is illegal, it is booted off the system. This approach is also especially prone to misuse by mischievous callers, who can manipulate sysops to remove practically any material they wish by issuing a convincing-sounding rumor that the material is illegal.

A technological solution might also be pursued. The BBS can assign a special code to each caller indicating the state or country he or she is calling from. If it is decided a file may be illegal in a certain country or state, the callers only from that state are excluded for downloading that file. If it can be implemented in the BBS software, this approach might solve a large part of the problem.

Such a scheme would likely not be 100% effective against wily callers from the country in which the file is illegal, who could probably sidestep the coding security and obtain the forbidden file anyway. This would not put the sysop in much legal danger, though. It is very unlikely a sysop utilizing this kind of scheme would be held responsible for callers who deliberately circumvent his security procedures to get their hands on an illegal file. It looks entirely like the caller went to special efforts to get the file, and the sysop does not look like he encouraged such activity.

There remains the question of whether such caller origin tracking procedures could in fact be effectively implemented in BBS software. Could caller origin I.D.'s be tracked through the entire BBS system? Could they be used to discriminate between callers accessing public posting areas? Would the entire BBS need to be restructured into a nest of security areas enabling isolation of materials questionable in different legal jurisdictions into different compartments in the BBS? Would a BBS pursuing this approach end up internally reflecting the mix of outside legal regimes in which its callers live?

These questions all point to a larger question: how far can or should a BBS be internally restructured simply to avoid cross-jurisdictional legal problems? Conforming the BBSs structure to meet such legal needs may result in a system that is not much fun for the callers. And further, segmenting and compartmentalizing the BBS to allow selective caller access to files based on their state of origin could end up reducing the very freedom of access and speech that is sought to be preserved.

To sum up, this subject of the legal responsibility of cross-jurisdiction BBSs raises a lot of questions, with few answers at this time. Clearly, if a BBS seeks to obey the most restrictive country or state law on each legal subject by removing files conflicting with that law, it could end up with an entirely innocuous set of materials that may offend no one, but will also be arbitrarily incomplete and please very few people interested in obtaining anything useful or entertaining on that BBS. Speech, which should be free (at least in the U.S.), becomes maximally burdened instead. And the internal guidelines of a BBS responding to the most restrictive laws of several countries and states will be far more restrictive than the mix of laws in any one of those countries or states.

As a last thought, the reader might note that the claim "banned in Boston" has helped in the past to sell many copies of books by controversial authors such as Henry Miller and William Burroughs. "Banned in Germany" may have had a similar boosting effect on sales of Wolfenstein 3D. So while the Wolfenstein 3D affair has provided us with

food for thought on an important issue sysops will face repeatedly in the future, distribution of Apogee's program may actually have increased this time around.

[Lance Rose is an attorney practicing high-tech, computer and intellectual property law in the New York City area, and is available on the Internet at el-rose@well.sf.ca.us and on CompuServe at 72230,2044. He works with shareware publishers, software authors, system operators, technology buyers, interactive media developers, on-line database services and others in the high technology area. He is currently revising the book SYSLAW, a legal guide for bulletin board system operators. - Editor]

XEROX PAPERWORKS

by Thom Foulks



This is a Runtime Review of Paperworks, from Xerox.

This is another of several new software products that are redefining the basic concepts of fax communications, as well as adding significant new powers to the lowly fax machine.

Paperworks provides the power to control a computer remotely from a fax machine. Literally. A single sheet of fax paper becomes "smart" paper, able to command a computer to carry out specified instructions. The software is used with Microsoft Windows, on a '386 or '486 computer, equipped with a "smart" fax card such as the Intel SatisFAXtion or the Complete Fax.

This is forms-oriented software. You set up forms on the host machine, indicating what particular task a given form is to accomplish - such as send, retrieve, or store other forms. When Paperworks scans an incoming fax form, it matches it with the forms it has stored, and carries out the instructions marked on the incoming form. There is, of course, a security option that requires a particular code to be marked on the incoming form for it to carry out certain instructions. The trick to all this is that the incoming fax form must have been generated by Paperworks initially. That chicken-and-egg situation is easily overcome: If Paperworks receives a blank sheet of paper, it responds by sending back a "starter" form.

Describing this process is far more complex than actually seeing it in action. Creating a form is easy with Windows drag-and-drop icons. Filling out a form to send from a fax machine is simply marking "x" in a box on the form, answering the form's questions. Handwriting on the form is preserved as part of the incoming fax image, and can be retransmitted as part of a form to yet another fax recipient. What's the value of all this? Xerox cites several examples of how Paperworks can be used:

- * A salesman on the road can retrieve updated or forgotten documents from a Paperworks host machine, anytime, around the clock, from any fax machine.
- * Someone away from the office who needs to send a fax to a number of recipients can send one fax, and direct Paperworks to retransmit that fax OR any other stored form, to a select group of recipients.
- * A person on vacation stumbles across information he or she knows they will need when they return to the office. It

can be faxed directly to Paperworks - and even linked to other documents already stored.

* It might also find its way into use as the host system for "Computing Success!" listeners to receive printed copies of our Runtime Reviews and other special reports on these broadcasts.

Xerox says there were only 100,000 fax machines in the United States in 1980. In ten years, that number jumped to more than seven million. Last year, it's estimated there were only 700,000 fax cards installed in computers. That number is expected to increase 42 percent ANNUALLY over the next five years. Most new computer design announcements today routinely include a fax/modem port. At Cache la Byte, I have fax/modems on four machines and any one of them may see use at any given moment.

Xerox brags that, with Paperworks, it has invented "smart paper". The smartest paper in any office would be "no" paper. Paperworks is another smart step in that direction. It was developed at the firm's Palo Alto Research Center, usually referred to as "Xerox PARC" - generally also referred to as the birthplace of the graphical-user-interface. Xerox hints that other so-called "paperware" products are on the agenda for Xerox PARC. Paperworks has a list price of \$249.95, and ordering information is available from Xerox at 800-4FA X-FAX (800-432-9329). Mailing address: Xerox Corp., 3400 Hillview Ave., Palo Alto, CA 94303.

(Note that we are trying to assemble the right hardware and telephone line linkage to set up a "live" on-air demonstration of Paperworks and its forms retrieval system.)

[Thom Foulks is host of Computing Success, a syndicated radio talk show covering computer technology issues from the Business Radio Network in Colorado Springs, Colorado. The show airs Saturdays at 6:00 AM MDST and Sundays at 2:00 PM MDST on affiliated radio stations nationwide. Foulks also wrote his own Message Hub BBS software package and operates the Cache la Byte Hub BBS at (719)528-8545. - Ed]

SHAREWARE FINDS

SHAREWARE INDUSTRY AWARDS

The BBS industry is growing and changing, as it has from the first Boardwatch issue in March of 1987. But another industry has developed right alongside it, sharing many of the same strengths and weaknesses, problems and victories. The shareware software industry exists in a very symbiotic relationship with bulletin boards. The availability of shareware software for download from electronic bulletin boards still defines the number one activity online - eclipsing electronic mail, chat, information, conferencing, databases, and all other activity in sum quite entirely.

At the same time, despite emergence of a growing disk vending business, where vendors sell diskettes containing shareware programs at prices as low as \$1.95 per disk, the number of program downloads from any of several single large bulletin boards eclipses ALL the shareware disks shipped worldwide by disk vendors. Electronic bulletin boards remain the largest volume channel for the distribution of shareware programs, and we've actually mapped the spread of some programs globally within the space of a day. That is, a program file uploaded to one BBS and available on virtually all continents within the span of 24 hours. The Shareware software industry and the world of bulletin boards are joined at the hip for good or ill without foreseeable recourse.

The two industries also share another factor that explains their existence beyond any other we've found - the desire to escape. Across America, millions of resourceful people are very strongly attracted to the concept of being able to leave their current job in Corporate America and make a living running a BBS, or selling a software program from home. The environment in thousands of conventional occupations has devolved to such a degree that the mirage of security, which held millions at unsatisfying stressful jobs which ill used their talents, is no longer taken seriously even by those most attracted

to that security. At trade shows, conventions, meetings, and online discussions, many of the conversations revolve around one theme - "I WANT OUT."

A small number of people HAVE gotten out, by marketing shareware software programs on no budget and no particular resource to do so beyond dint of force of will. And likewise, a small number of BBS operators have done the same. But even a handful of self-made millionaires are enough to drive thousands to pursue the dream. And some of them will succeed.

Both industries comprise one of the few opportunities where an individual with an idea and a lot of hard work can "make it" starting with almost no money. There is one difference between the two industries however. A group of shareware authors joined together a few years ago to form the **Association of Shareware Professionals (ASP)**. In June, the ASP admitted its 1000th member with a product titled **Josephine's Own Recipe File (JORF)**. The group takes a booth at COMDEX each year, and actively promotes the shareware software concept. The BBS industry has no such association, and in fact, BBS operators seem disinclined to organize.



Bob Ostrander - Summer Shareware Seminar

One of the early disk vendor members was **Bob Ostrander**, who founded Public Brand Software in Indianapolis. PBS became one of the largest disk vendors in the business with an impressive library of shareware titles, a very descriptive printed catalog, and their own BBS as well. Last year, Ziff Communications purchased PBS and operates it today. The Ziffnet shareware file library is largely based on the PBS collection.

Last year, Bob Ostrander/Public Brand Software started an industry tradeshow titled the **Summer Shareware Seminar**. We attended the 1992 repeat of this which ran June 19-22 at the Adam's Mark Hotel in Indianapolis. Some 387 shareware authors gathered for the event to compare strategies and generally hobnob a bit. We were somewhat surprised by the willingness of those who had "made it" in shareware, such as Marshall Magee (AUTOMENU), Bob Wallace (PCWRITE) and others to share tips and strategies that in many businesses would be considered very proprietary strategic information. Sessions covered dealing with the press, documentation, support, advertising, bulletin boards, and legal copyright issues. There was a genuine atmosphere of cooperation as several of the industry millionaires gave frank, honest answers to questions.

Clearly, the highlight of this year's show was the Shareware Industry Awards. Public Brand Software was joined by Budgetware, Michael Callahan, Contact Plus Software, Formgen, Shareware Testing Laboratories, Software Excitement, and Trius Inc. in sponsoring a series of awards for excellence in shareware software design. A committee was impanelled to nominate shareware titles for a series of categories ahead of time electronically via CompuServe. An initial "cut" of nominees was made by the panel, and the final balloting was done on the afternoon of June 19th in an actual meeting of the judges prior to the show. Boardwatch was included in the panel along with representatives of Shareware Magazine and a UK publication titled PC Shareware, along with the sponsors and other representatives. The actual winners received awards at a banquet on Saturday night.

Categories considered for awards included:

BEST UTILITY
BEST APPLICATION SOFTWARE
BEST GRAPHICS APP OR TOOL
BEST BUSFINANCE SOFTWARE
BEST PROGRAMMING LANGUAGES
AND TOOLS
BEST EDUCATIONAL SOFTWARE
BEST ENTERTAINMENT SOFTWARE
BEST HOME OR HOBBY SOFTWARE
BEST MATH/ ENGIN SOFTWARE
BEST NEW PRODUCT
BEST OVERALL
INDUSTRY APPRECIATION AWARD

Bob Wallace, one of the very early supporters of the shareware concept and author of the successful PC-WRITE word processing package - still one of the top word processors in the industry, was honored with an Industry Appreciation Award.

BEST UTILITY CATEGORY

One of the strengths of shareware is utilities. The hefty investment required in most retail/commercial software launches generally precludes releasing a small utility to do a specific task. There have been exceptions, but generally, no one wants to spend the money to get shelf space for a tiny product. The shareware concept allows programmers



The Winners - Software Industry Awards

to release programs on virtually no budget. As a result, many utilities widely available today in shareware form wouldn't be available at all without it.

WINNER - 4DOS - Tom Rawson and Rex Conn of J.P. Software. This program is actually a command processor replacing the DOS **COMMAND.COM** file and extends DOS by adding about 40 commands you can use at the command line or in batch files. A **MOVE** command, for example, copies a file from one directory to another and deletes the original. We've never been able to figure out why this wasn't in DOS 1.0. The **GOSUB** and **GOTO** functions make batch files much more powerful. A **LIST** function is a much more powerful replacement for **TYPE**, allowing forward and backward scrolling etc. This has been a classic utility in everyone's toolbox for a number of years. So much so that Symantec purchased the program for inclusion with the latest version of Norton Utilities - titled **NDOS**. Widely available in the files **4DOS401D.ZIP** (documentation) and **4DOS401P.ZIP** (program files)

ICONMASTER - Phillip Kaufman. Iconmaster has become something of a favorite among the Windows crowd to create and edit icons for the Windows desktop. **IMSTR12D.ZIP**.

LIST - Vern Bueg. Another classic utility, **LIST** allows you to examine files of any type in ASCII or hex format and perform a number of operations on them. **LIST** is great for searching files, comparing files, splitting files, combining files, viewing archives, renaming files, copying files, sorting operations, etc. **LIST76B.ZIP**.

PKZIP - Phil Katz of PKWare. Most files on bulletin boards end in the file extension **.ZIP** indicating they were created with the **PKZIP** utility. **PKZip** is the most common archive utility available online. The program allows you to combine numerous files making up a program into a single file entity. In the process, it compresses the final file into a fraction of the size of the original files. This makes it easy to transport programs by modem in the minimum time, and also to store programs on a hard drive in a minimum of space - ergo the popularity among BBS operators. **PKZIP** is used to create these archives and the companion program **PKUNZIP** is used to unpack these archives into the

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Practical 14.4 SA	\$549	YES	NO	NO	NO	NO	NO
Microcom OX/4232bis	\$899	YES	YES	NO	NO	NO	NO
Hayes Ultra 14.4	\$999	YES	NO	NO	NO	NO	NO
U.S. Robotics Courier V.32bis	\$995	YES	YES	NO	NO	NO	NO
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Editor's Choice: ZyXEL U-1496E
 German Edition, 4/92

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 Comparison chart was completed in May, 1992.

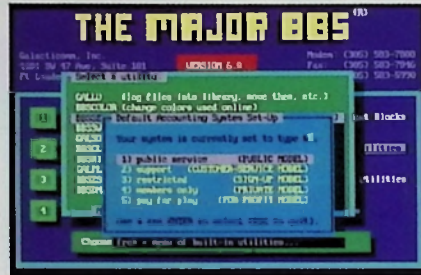
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4. A full-screen editor with block commands and paragraph formatting, is included.
5. Message quoting is supported.
6. Proprietary Locks and Keys™ security now gives you *millions* of security levels.
7. Users can log into your BBS through your Novell network.
8. Offer up to 3500 public message Forums.
9. We provide free, unlimited, technical support (within reason).



10. Have as many "classes" of users as you like for accounting and security purposes.
11. It includes a multi-user teleconference with 65,535 channels, "whisper", "scan", and "moderate" commands.
12. An MHS gateway is included; share messages with cc:Mail, DaVinci E-Mail, and other MHS applications.
13. You can even send MHS messages to other gateways, including MCI Mail, Compu Serve, Internet, X.400 networks...
14. Users can view the contents of .ZIP, .ARC, .LZH, and .ICE files online.
15. You can create weekly, monthly, quarterly, and yearly subscription accounts.
16. Bar graphs are displayed for a variety of system usage statistics.
17. A common group of "keys" can be combined into a "keyring" that can be shared by many users.
18. An online polls-and-questionnaires facility is included.
19. Users can request "return receipts" and send "carbon copies" of E-mail to individuals or distribution lists.
20. A direct-connect X.25 network option is available.
21. You can tag a group of files to be downloaded at once with a batch transfer.
22. You can design your own menu tree with options leading to BBS functions, file displays or other menu pages.
23. Runs under regular MS-DOS 3.3 or better — no multitasking OS required!

24. User account information can be saved to fixed-length ASCII and imported into dBase, Paradox, Q&A, etc.
25. An Audit Trail tracks all transactions on your system; powerful searching utility included.

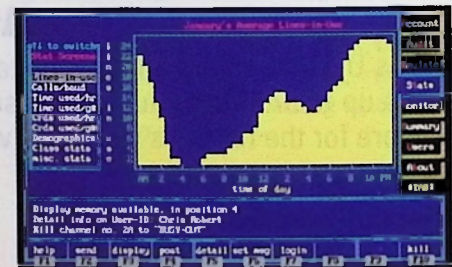


26. Experienced users can jump directly to menu options using a "GO" command.
27. One-on-one chat mode is included.
28. You can generate mailing labels for direct mail campaigns.
29. The File Library can have unlimited sub-libraries, each with its own DOS path.
30. CD-ROM drives are supported.
31. Keyword searching, file attachment, and message threading features are included in the Forums.
32. You can monitor all system activity at once from your main console.
33. Users can page each other throughout the system.
34. A user registry database lets everyone publicize some information about themselves.
35. You can copy whole menu branches, edit their parameters, and re-order menu options.
36. An ANSI drawing tool is included that helps you create customized menu displays that dazzle your users.
37. You can offer "upload royalties".
38. BBSETUP automatically finds communications hardware in your computer and configures channel groups for you.
39. You can use all COM1, COM2, COM3, and COM4 ports at once.
40. Users with different keys can be routed to different menu branches.
41. Users can be routed to different menu branches according to the phone number they dial — run multiple BBSes at once!



42. Each Forum can have its own teleconference for real-time discussions.
43. The full 'C' source code is available.

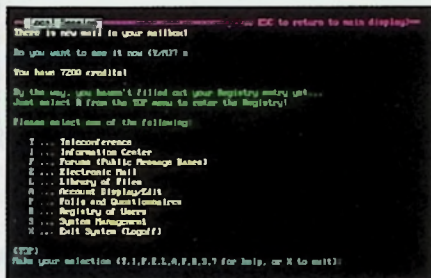
44. An "emulate" feature lets you peek over the shoulder of any user, putting your keyboard and screen in parallel with theirs.
45. On pay-for-use systems, online time can be metered by the second.
46. We include SPXTALK, our LAN access terminal program.
47. If a user doesn't have access to a menu option, you can either display it, dim it (using ANSI color), or hide it completely.
48. You can let callers use full names or aliases.
49. You can arrange for the system to shutdown and execute batch processes at configured timed events.
50. You can assign read-only, read/write, or co-management access to Forums.
51. Each Forum can export messages to an MHS address for networked group mail services.
52. You can allow users to "run up a tab" and generate a report every month or every week for billing purposes.
53. There are dozens of third-party developers providing add-on software for The Major BBS.
54. There's even a built-in screen saver.
55. Because the BBS runs in protected mode, you can add several megabytes of add-on software.
56. We offer hardware solutions to rack up dozens of standard COM1/2/3/4 internal or external modems to your computer.
57. You can reset or busy-out any of your lines from the main console.
58. Our advertising tells you what we can do for you, not what motorcycle our president rides to work.



59. We don't use exclamation points in our product name — it speaks for itself.
60. Our literature doesn't repeat our president's name every three paragraphs.
61. Our Remote Sysop Menu lets you control your BBS from anywhere in the world.
62. Users can automatically log off the system after an upload or download is completed.
63. You can restrict your system from allowing new sign-ups for a completely private-access BBS, if you like.
64. Modem/serial connections up to 38,400 bps are supported.
65. Authorize as many co-Sysops as you want.
66. Offline reports are available for user accounts, user "classes", user "keys", Forum access, and more.

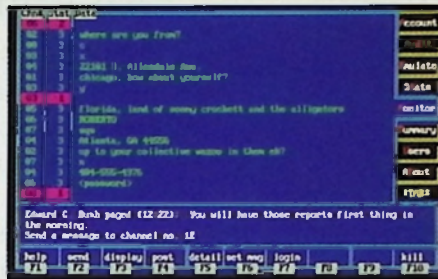
Use The Major BBS

67. A Top 10 Downloads list is maintained for each sub-library.
68. Users can forward or copy E-mail and Forum messages.
69. You can have two CRTs at your Sysop console, for a panoramic view.
70. Our full-screen configuration editor lets you easily customize all the messages in your system.
71. A Shopping Mall add-on option lets you handle catalog sales and online order entry.
72. Supporting more simultaneous users is as easy as installing "User Six-Packs" and plugging in additional modems.
73. Users can make public or private replies to Forum messages.
74. The Sysop console provides context-sensitive help.
75. You can edit user accounts directly from the Sysop console.



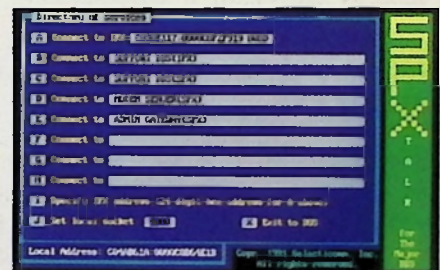
76. You can perform elementary DOS commands while the system is running: COPY, DIR, DEL, REN, MD, etc.
77. A database add-on option lets you create custom data entry or search-and-retrieve services online.
78. Our B-Tree indexed database engine assures power-fail data integrity.

79. Users can have E-mail messages "auto-forwarded" to another User-ID or a MHS address.
80. Old messages and unused accounts can be automatically purged from the system.



81. New users can be automatically sent a welcome E-mail message with a help file attached.
82. The entire documentation has been rewritten with screen shots, diagrams, tips and tricks, and a clear writing style.
83. Connect-time charges can vary for each function or Forum in the BBS.
84. Automatic Software Update Program is available on a yearly subscription basis.
85. You can log on locally from the main console exactly as if you had called in over a phone line.
86. Users can resume aborted downloads.
87. A User-ID cross referencing feature lets users quickly find who they want to write a message to, even if they don't know the full name of the recipient.
88. You can import text into messages from other messages or ASCII text files.
89. As the Sysop, you can log on in "invisible mode", to go about the system undisturbed.
90. You get a 30 day money-back guarantee.

91. Users can edit their account information in a full-screen data entry mode.
92. You can ask up to 10 custom sign-up questions when a user creates a new account.
93. A neat utility lets you globally change all the ANSI colors in your configured messages.
94. You can configure the BBS to automatically suppress profanity.
95. A Games and Entertainment add-on option is available which includes multi-user poker, blackjack, bingo, Flash™ games, hangman, a multi-player text adventure and more.
96. You can have a time limit per call and a time limit per day for each user.
97. The Advanced LAN Option is available for even more flexibility with your Novell network.
98. There's a 976-BBS add-on option that lets your customers purchase online time via a 976- or a 1-900- number.
99. You can receive round-the-clock support on our own Demo System BBS; give it a call at (305) 583-7808.
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101. We're really nice folks who want to provide you with the best BBS software in the world.



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original component files. Widely available in a self-extracting file titled PKZ110.EXE.

ZIPKEY - Eric Isaacson. ZIPKEY allows you to lookup zip codes from within any program. The program itself is commonly found in ZK200.ZIP while the zip code data is usually available in a separate file ZK0890.ZIP. Written entirely in assembly language using Isaacson's A86 assembler, this program is a model for space efficiency and speed. Also good if you need a zip code on the quick.

BEST APPLICATION SOFTWARE

Just as in commercial software, the big hits in shareware tend to be larger application tools such as word processors, database programs, and spreadsheets. Some of the earliest shareware entries were in this field and in general, the more financially successful ones. Virtually all the titles nominated in the **BEST APPLICATION SOFTWARE** category have garnered over a million dollars in registrations for their authors and

most of them several times that amount. For many people, these programs easily accomplish their task and are comparable to commercial programs costing hundreds of dollars more.

WINNER - AS-EASY-AS - Trius Software. Paris Karahalios wrote AS-EASY-AS as a clone of the Lotus 123 spreadsheet program (AS-EASY-AS 1-2-3 ostensibly). It has developed a following within the shareware community as a spreadsheet in its own right. Currently available for download in the file ASA501C.ZIP.

PC-FILE - Buttonware. Jim Button was one of the pioneers of the shareware concept with his database program for the Apple II, and later for the IBM, titled PC-FILE. The latest version of this software is actually commercial software, but the earlier shareware version is still popular. The 5.01 version comes in three files: PCF501A.ZIP, PCF501B.ZIP and PCF501C.ZIP. While lacking a development language and relational capabilities, PC-FILE offers an easy to use menu interface to a flat database file that many users prefer

because it is easy to learn and accomplishes most of the tasks people need a database for.

PC-WRITE - Quicksoft. Another pioneer of the shareware concept is Bob Wallace, author of a popular word processing package titled PC-Write. This program is routinely attributed to Jim Button of Buttonware due to the similarity in the PC-WRITE/PC-FILE names, but Bob Wallace wrote it originally and is still improving it today - most recently with some powerful thesaurus functions. This program is commonly found in four files - PCW202-1.ZIP, PCW202-2.ZIP, PCW202-3.ZIP, PCW202-4.ZIP.

PROCOMM - DataStorm Technologies. Procomm is another early winner in the shareware world and quickly became the most popular terminal communications program in the PC world. It sports a very usable interface and wide variety of file transfer protocols. DataStorm has actually grown out of the shareware world and today is a commercial software company with Procomm versions on retail shelves nationwide. The company currently sports

over 100 employees at their Columbia Missouri plant. But the **PCPLUSTD.ZIP** test drive version is still widely available on many bulletin boards and quite functional.

QEDIT - SemWare. Another success story, QEDIT has become one of the favorite text editors in the programming world and numerous Fortune 1000 companies have standardized on QEDIT as the editor of choice for software development. Filename **QEDIT21.ZIP**

TELIX - Exis, Inc. One of the early competitors to Procomm in the communications software market was Colin Sampalaneau's TELIX. The program continues to be a favorite shareware title - currently in release 3.15. TELIX comes in three files - **TLX315-1.ZIP**, **TLX315-2.ZIP** and **TLX315-3.ZIP**

BEST GRAPHICS APPLICATIONS OR TOOLS

Shareware has done well in the graphics field. While commercial programs such as Corel Draw and Aldus Freehand hold sway in the retail market for design programs, the online world has developed slightly different needs. CompuServe introduced a graphics file format titled Graphics Interchange Format (**GIF**) in 1987. This has become a very common format online. Most shareware graphics programs support this format to a greater degree than commercial software and the shareware programs focus on conversions between various graphic image formats - some sporting compatibility with dozens of formats.

WINNER - PAINT SHOP PRO - Robert Voit. Paint Shop Pro allows the user to load graphic images from 14 different file formats including .PCX, .GIF, .WPG, .PIC, .TIF, and others. The images can be cropped, rotated, filtered in a variety of ways, printed, and converted to other formats. Paint Shop Pro is a Windows program and requires Windows to operate. **PSP101.ZIP**.

COOPER GRAPHICS SERIES - Jim Cooper. This is a series of 18 different clip art collections created by Jim Cooper. **COOPER01.ZIP** through **COOPER18.ZIP**.

DESKTOP PAINT/DESKTOP PAINT 256 - Steve Rimmer. Desktop Paint was designed specifically for those who use desktop publishing programs and need a graphics package to edit monochrome images for print publication. The program uses a GEM interface similar to Ventura Publisher and works well on .PCX, .IMG, and .MAC images common in desktop publishing. This package allows you to create and edit the images for later use in Ventura Publisher or Pagemaker documents. **DTP25.ZIP**.

DRAFT CHOICE - Trius Software. In addition to their AS-EASY-AS spreadsheet, Trius has recently come out with a CAD design package titled Draft Choice. Commonly available in **DC151F.ZIP**.

GRAPHICS WORKSHOP - Steve Rimmer. Similar to Paint Shop Pro, Graphics Workshop allows you to deal with an amazing variety of graphics formats and perform conversions and changes to these images. The product includes some excellent controls to alter brightness and contrast of scanned images and adjust red, green, and blue components. It also offers several dithering functions to make images more amenable to printing. **GRFWK61P.ZIP**.

BUSINESS OR FINANCE SOFTWARE

Commercial accounting packages can cost thousands of dollars. The development of low cost shareware alternatives was virtually inevitable and this category sports several that thousands of small firms find more than adequate to the task.

WINNER - MEDLIN ACCOUNTING SYSTEM - Jerry Medlin. A complete series of accounting software modules including **PC-AP16.ZIP**, Medlin's Accounts Payable; **PC-AR41.ZIP**, Accounts Receivable; **PC-GL35.ZIP**, General Ledger; **PC-INV11.ZIP**, Invoice Module; and **PC-PR20.ZIP**, Payroll Module.

AMTAX - AM Software - a program to automate the preparation of federal income tax returns. **AMTAX91A.ZIP**.

WINCHECK - Checkbook program for Windows by Morrey Wilson of Wilson Windoware. WinCheck allows you to track not only checking accounts, but savings, ATM transfers, and credit card accounts in a beautiful Windows interface. **WCK30P.ZIP**.

CHECKMATE PLUS - Custom Technologies. CheckMate Plus replaces CheckMate and CheckMate GL. This checkbook-based accounting package does real double-entry transactions. It produces balance sheets, income statements, and budgeting and graphical reports. **CMP150A.ZIP**. It must do what it says, because upon registration you receive a 200+ page illustrated users guide. In the meantime, you can limp along without the pictures with the documentation in **CMP150B.ZIP**.

PAINLESS ACCOUNTING SERIES - Kendall Pierce. Another complete series of accounting software modules that are fully integrated, including General Ledger, Billing, Accounts Receivable, Accounts Payable, Reports, Closing, Utilities and a File Maintenance program that even has a daily appointment scheduler. It allows you to enter text information on your clients. **PAC540.ZIP**.

TAKIN' CARE OF BUSINESS ACCOUNTING PACKAGE by Hooper International - another modular accounting package with modules for general ledger, accounts payable, accounts receivable, payroll, and invoicing. **TCB.ZIP**.

BEST PROGRAMMING LANGUAGES OR TOOLS

While shareware has moved more toward consumer software, programming utilities are still widely sought by the programming segment of the online world.

WINNER - A86 ASSEMBLER - by Eric Isaacson. Similar to TASM or MASM - allows you to completely write, compile, and use assembly language programs. **A86V322.ZIP**.

14.4 MODEMS

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WINDOW BOSS Version 7.01 by Phillip Monzgelluzzo. C language library for adding windows and data entry forms to programs. **WBOSS701.ZIP**.

TECHNOJOCKS OBJECT TOOLBOX AND TECHNOJOCKS TURBO. Bob Ainsbury. These are application libraries for Turbo Pascal program development. The Technojocks Object Toolbox comes in **TOT-1.ZIP** and **TOT-2.ZIP**. The Technojocks Turbo library comes in **TTT5-1.ZIP**, **TTT5-2.ZIP** and **TTT5-3.ZIP**. Both libraries are a must for Turbo Pascal programmers.

BEST EDUCATIONAL SOFTWARE

The shareware world has developed a rich range of educational software offerings - particularly educational games for children. Some of these programs are superior to anything available in the retail market - and by no small degree.

WINNER - ANIMATED SERIES by Tom Guthery. Tom Guthery was by trade an artist specializing in animated video productions - primarily television

commercials. Today, he's a full time shareware author by virtue of some 5000 paid registrations for his children's educational game series. These programs are notable in their superb graphics, screen animation, and sound. The **Animated Word** program particularly is superior to anything you will find on the retail shelf. Working with his three-man beta test team (ages three, seven, and ten), Guthery developed **Animated Words** to display a large type word across the top of the screen. A synthesized voice pronounces the word. The program can make use of dedicated sound cards like the COVOX, but even on our box of junk clone parts, with a sound speaker probably originally designed as a cigarette or gasoline premium, the voice was quite clear, quite human, and quite understandable. In fact, it was startling. A row of superbly illustrated graphic boxes beneath allows children to use the mouse to select the picture matching the word. The voice then rewards them with words of encouragement such as "cowabunga dude - awesome" while an animation plays on the screen. Just superb in all respects, **Animated Words** can be found in the files **AWCMP1.ZIP** and **AWCMP2.ZIP**. A similar **Animated Math** program comes in four files:

AMATH1-A.ZIP, **AMATH1-B.ZIP**, **AMATH1-C.ZIP**, and **AMATH1-D.ZIP**.

AMY'S FIRST PRIMER - Rob Robinson. Rob Robinson's daughter, Amy, didn't enjoy the shoot-em-up programs her brothers did. And by dint of her birth falling on the eighth day of September, only shortly after the cutoff date for entering school, Amy was destined to start school nearly a year later than many children. Dad tried to find some educational programs suitable for someone age five. There wasn't much to pick from. His problem became our benefit as it caused him to write **Amy's First Primer**, a simple educational game that teaches very young children colors, shapes, the alphabet, numbers, and the rudiments of counting. **AMYFP22.ZIP**.

GOOGOL MATH GAMES - Paul Dawson. A googol is the digit 1 followed by a hundred zeros. We'd guess it was a large number. Paul Dawson has created a very active set of math games and puzzles we found engaging. **GOOGOL34.ZIP**

FAS-TYPE - Bill Letendre. Everyone has heard of Mavis Bacon's Typing Tutor. **FAS-TYPE** is a shareware program that likewise teaches people to type. It does a good job of it. **FASTYPE.ZIP**.

SCHOOL-MOM. Dr. Andy Motes. Dr. Motes has created an extensive set of children's educational modules. **MOM358.ZIP**

TUTOR.COM - Tom Simondi. A classic shareware program (1985) providing an introductory tutorial to the IBM PC computer. Covers terminology, history, an introduction to the keyboard, the Disk Operating System (DOS) and batch file programming. Available in **TUTCOM.ZIP**.

BEST ENTERTAINMENT SOFTWARE

WINNER - COMMANDER KEEN SERIES - Apogee Software. The common wisdom in shareware was that you couldn't make money from game software. By the time people had used a game long enough to want to register it, they were tired of the game and had

moved on to another. Apogee Software has proven this rule of thumb false by introducing games in a series. The first game in the series is shareware, and you can get the following games by purchasing them at very reasonable prices - typically \$15 each. Each game is quite complete in itself, but so good, it leaves you wanting more. The company is currently doing over 300 registrations per day and some insiders estimate a monthly income in excess of \$300,000. One of the company's finds was another Texas firm, Id Software. Id developed Commander Keen, a space voyager that moves about a screen layered with incredible graphics. The game has become phenomenally popular. Available in the file #1KEEN.ZIP.

CHINESE CHECKERS - ImagiSoft. Chinese Checkers is a screen simulation of the popular Chinese Checkers board game. It allows multiple players of course. The presentation is visually impressive, and you don't lose any of the marbles. CC11.ZIP.

DUKE NUKEM - Apogee Software. Another in the popular Apogee series, Duke Nukem is after the fashion of Commander Keen. DUKE.ZIP.

EGA TREK - Nels Anderson. There have been Star Trek games since there were personal computers. In fact, we may recall a couple of early versions on the DEC 20 model mainframe. The programs tend to be tactical simulations using rude sector grids and text messages. Nels Anderson has upped the ante a bit with an EGA console and a very rich set of functions. If you've wanted to command your own star ship, EGA TREK is an engaging simulation. EGATREK3.ZIP.

SOLARIAN II - Ben Haller. Solarian II is the only Macintosh program nominated by the SIA. A space arcade game, Solarian features professional graphics, humorous sound functions, and great 8-bit color. Considered one of the best Mac games available. Comes in self-extracting file SOLARI.SEA.

BEST HOME OR HOBBY SOFTWARE

WINNER - SKYGLOBE - Mark Haney. SkyGlobe is a planetarium for the PC. The program gets the current date and time from your system clock. You can enter your location by simply selecting a city or entering latitude/longitude information. The program displays the stars and planets on screen as they would look from your location at the current time. You can also change the time, location, the view to east, west, north, or south, and zoom in on star clusters or planets at will. A FIND function allows you to select celestial objects and the program will then locate them for you. Budding astronomers will find this a fascinating program. SKYGL30.ZIP.

MASTER MEAL MANAGER - Thomas Johnson. Meal Manager is a complete meal planning program that includes a recipe database, scheduler, and a shopping list that allows you to plan meals and purchase the requisite food stuffs to make them happen. The program is quite easy to use, and allows the import/export of recipes into the database. MMM151.EXE

BROTHER'S KEEPER - John Steed. One of the more active areas in both BBS message conferences and shareware is the topic of genealogy. A simple look at the base-two numbering system will indicate that tracking people through even a few generations either forward or backward leads to a large number of people. Brother's Keeper is a database designed specifically for keeping track of who begat whom and so forth. The program can track up to 999,999,999 people. The program comes in four files titled BK5-10A.ZIP, BK5-10B.ZIP, BK5-10C.ZIP, and BK5-10D.ZIP.

FAMILY TREE JOURNAL - Richard Cherry. Another genealogy program, family tree journal is a bit more oriented toward building the type of text essay style history of a family that many family historians ultimately want to produce. FTJ91-1.ZIP, FTJ91-2.ZIP, FTJ91-3.ZIP.

BEST MATH OR ENGINEERING SOFTWARE

The original vision of electronic computers in this century was to calculate tables of ballistic data for weapons. And for some time, they were viewed as number crunching tools. Few could foresee the day when word processing would be the number one computer application. But computers still are quite good at solving the math puzzle.

WINNER - KWIKSTAT - Alan Elliott. Alan Elliott is by profession a statistician. He developed a shareware package to perform statistical analysis and by all accounts, it is the definitive work in the shareware world. KWIKSTAT.ZIP.

MATHPLOT - Phillip Sherrod. MathPlot performs an interesting feat in that it relatively quickly graphs up to four algebraic equations on the PC screen. Graphs are routinely used to depict mathematical relationships. With MathPlot, you simply enter the equation and the possibilities are graphed quite colorfully on the screen. The program can display four types of functions including cartesian [$y=f(x)$], parametric cartesian [$y=f(t)$ and $x=f(t)$], polar [$\text{radius}=f(\text{angle})$] and parametric polar [$\text{radius}=f(t)$ and $\text{angle}=f(t)$]. The program can plot up to four of these functions simultaneously. Some of these graphs quickly become complex, but is it art? MATHPL20.ZIP.

MERCURY - Roger Schlafly, Real Software. Borland had an early product titled Eureka that purported to solve mathematical expressions. The company decided to focus on database, spreadsheet, and programming products and Eureka was given its freedom. The code was used to produce a product titled MERCURY, which never saw funding. What would have been Eureka version 2.0 is now Mercury. The product evaluates mathematical expressions, solves for roots, solves a system of equations, can maximize or minimize a function, evaluate derivatives and definite integrals, and plot functions. This program is a bit of a hidden gem in that Borland didn't see a mass market for it, but it seems solid. MRCRY204.ZIP.

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P&A BBS	+81 425-46-9143	Tokyo, Japan	Patrick Hochner	2 Lines	WildCat
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DaemonWorld BBS	+886 2-703-5180	Taipei, Taiwan ROC	Raymond Lee	16 lines	Major BBS
Evergreen BBS	201-398-2373	Hopatcong NJ	Bob Lawton	3 lines	Wildcat!
The Collectors' BBS	201-635-4519	Chatham NJ	Eric Marks	1 line	TBBS
HH Info-Net	203-738-0342	Hew Hartford CT	Lee Winsor/Oriane Druet	16 lines	PCBoard
Sales Automation Success!	206-392-8943	Issaquah, WA	Richard N. Bohn	1 line	WildCat!
Super Shareware BBS	206-535-1995	Tacoma, WA	Greg Randall	1 line	WildCat!
Bits N Bytes BBS	207-873-1937	Winslow, ME	PO Box 8194	2 Lines	WildCat
Stingray/Stingray II BBS	209-298-9461	Clovis, CA	Sam Wecter	2 Lines	Opus
ZenDen Systems BBS	209-675-8436	Madera, CA	Jack W. Porter Jr.	1 line	WildCat!
The Invention Factory	212-431-1194	New York NY	Michael Sussell	44 lines	PCBoard
AmeriServe BBS	212-876-5885	New York NY	David Shapiro	3 lines	PCBoard
The Red Phone Info Sys	212-924-1138	New York NY	Chris Welber	5 lines	PCBoard
THUNDERVOLTS BBS	213-225-5474	Los Angeles, CA	Harvey Woien	2 Lines	WildCat
La Palma/Western Pub	213-865-7374	Fullerton CA	Kelly Tompkins	3 lines	Wildcat!
Metro Online	213-933-4050	Los Angeles CA	Dave Harrison	60(LA Area)	Metropolis
The Modem's Delight BBS	213-944-1221	La Mirada CA	Ronald Dishon	1 line	Telegard
JR's Graphics	214-235-1004	Richardson, TX	James Richie	1 line	Wildcat!
Collector's Edition	214-351-9859	Dallas TX	Leonard Hult	2 lines	PCBoard
DFW Programmer's Exch	214-398-3112	Dallas TX	Ric Naff	1 line	SpitFire
Two Ravens BBS	214-618-9678	Plano, TX	Rick Rule	1 line	RBBS
Mother Board II	214-642-1287	Grand Praire TX	Doug Scoggins	3 lines	GAP
BBS America	214-680-3406	Richardson, TX	Jay Gaines	5 Lines	MegaBoard
Del Ches Systems BBS	215-363-6625	Exton, PA	Peter L. Rucci	3 Lines	TBBS
SataLink Info Systems	215-364-3324	Huntingdon Valley PA	Ron Brandt	9 lines	PCBoard
The Round Table BBS	215-678-0818	Wyomissing PA	Mike Brown & Dan McCoy	5 Lines	PCBoard
DreamLine II BBS	215-721-7039	Souderton PA	Frank Knapp	2 (3 Soon)	Maximus
PC-Ohio	216-381-3320	Cleveland, OH	Norm Henke	24 Lines	PCBoard
The G-Net BBS	216-782-6135	Boardman, OH	Gregg Gillis	1 line	Telegard
Merrifield PC BBS	218-829-6340	Merrifield MN	Gilbert Pence	1 line	Gap
Hollywood News/Info Sys	301-373-3530	Hollywood MD	Brandon Hayden	3 lines	PCBoard
Capitol Area Network	301-499-4671	Mitchellville, MD	Raymond D. Wood	1 line	GT Power
HomeLine	301-745-2037	St Michaels MD	Gene & Katie Hamilton	1 line	Wildcat!
CBUG BBS	301-750-1253	Columbia MD	Bob Weber	2 lines	PCBoard
Rosedale Data Line	301-866-4554	Rosedale MD	Gordon Malone	2 lines	TPBoard
T.I.& F.S.D.B.	301-926-4367	Gaithersburg MD	Cindy Chiang	5 lines	GT Power
Argosy PC Connection	302-736-6340	Dover DE	Mike Smith	1 line	SearchLight
DTel	302-739-2818	Dover DE	Sam Guccione	6 lines	Major BBS
George's Computer Room	303-344-9547	Aurora CO	George Clifford	1 line	PCBoard
The Universal Joint	303-467-6950	Arvada, CO	John B. McDonald	1 line	Spitfire
Genesee BBS	303-526-5505	Golden CO	Christine Manchester	1 line	TBBS
The Comm-Post	303-534-4646	Denver CO	Brian Bartee	6 lines	TBBS
The Circuit Board	303-666-0304	Lafayette CO	Jack Dean	2 lines	Remote Access
Electrotechnika	303-673-9978	Louisville, CO	Mark J. Medrud	Single	QuickBBS
The Global-Link Network	303-680-4563	Denver, CO	Louis Moritzky	6 Lines	PCBoard
Computer Security BBS	303-962-9536	Loveland CO	Calvin Cline	1 line	Wildcat!

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MEMBER BULLETIN BOARDS

MicroLink B	303-972-9600	Littleton CO	Girard Westerberg	7 lines	TBBS
Boardwatch Magazine	303-973-4222	Littleton CO	Jack Rickard	8 lines	TBBS
Data Point!	303-973-9454	Littleton, CO	Gary W. Funk	5 lines	TBBS
Mindless Ones	304-723-0263	Weirton WV	Frank Salerno	3 lines	PCBoard
Miami PC Users Group	305-680-9481	Cooper City FL	Don Mackai	1 line	PCBoard
Back To Basics	307-235-7043	Casper, Wyoming	Gene Hysner	1 line	PCBoard
Chicago Syslink	312-622-4442	Chicago IL	George Matyaszek	11 lines	TBBS
MicroLink BBS	312-631-7191	Chicago IL	Casey Drozd	4 Lines	Major BBS
HAL 9000	313-663-4173	Ann Arbor MI	Victor Volkman	4 lines	PCBoard
Toledo's TBBS	313/856-8183	Temperance, MI	Jim Dunmyer	7 Lines	TBBS
IDP-BBS	314-243-7542	Millersville MO	Donald Jones	1 line	Wildcat!
Express Shareware Report	314-256-0507	Ballwin, MO	Patrick Grote	1 line	TriBBS
Charlie's BBS	314-442-6023	Columbia MO	Charles Turner	1 line	PCBoard
Excalibur Systems Network	315-736-3792	Whitesboro NY	Ed Gray	1 line	RBBS
Nite-Air BBS	315/339-8831	Rome NY	Ken DeZotell	1 line	Wildcat
A.C.S. BBS	316-251-2761	Coffeyville KS	Ken Collins	1 line	RBBS
The Motherboard	316-284-2421	Newton KS	Marty Sadowsky	1 line	TBBS
ClassiComputerFieds	317-359-5199	Indianapolis IN	Jim Green	21 lines	Custom
Logos	317-395-8203	Peru IN	James Hunt	1 line	Searchlight
The Mail Room	317-644-5029	Anderson IN	Scott McPheeters	1 line	Fido
The RoadHouse	317-784-2147	Indianapolis IN	Richard Holler	1 line	Remote Access
PBS-BBS	317-856-2087	Indianapolis IN	Tony Moleta	20 lines	PCBoard
Linking Rings Spitfire	318-442-5694	Tioga LA	Don Hutson	3 lines	Spitfire
PUMA Wildcat!	318-443-1065	Alexandria LA	Chuck McMillin - CCS	2 lines	Wildcat!
Central LA Network	318-487-0800	Alexandria LA	John Chwatal	1 line	UltraBBS
Prime Cut BBS	401-334-3096	Lincoln RI	Peter E. Tarp	1 line	Searchlight
Connections BBS	401-658-3465	Woonsocket RI	Eric Robichaud	1 line	Remote Access
Hawg Wild!	402-493-2737	Omaha NE	Nate Chase	3 lines	Wildcat!
T-8000 Info System	403-246-4487	Calgary Alberta	Brian G Simpson	4 lines	TBBS
Gorre & Daphetid BBS	403-280-9900	Calgary Alberta	Bill Boogaart	1 line	Maximus
COM1 Atlanta-APCUG	404-879-5985	Stone Mountain GA	Stan Plager	5 lines	PCBoard
Positive ID BBS	405-226-2223	Aldmore, OK	Joe Sparlin	1 line	WildCat
Windchimes BBS	407-220-3312	Jupiter FL	Jim Morton	1 line	Spitfire
The FABulous BBS	407-834-6466	Longwood, FL	Hewie Poplock	2 Lines	PC Board
Globalnet	408-439-9367	Anaheim, CA	Paul Curtis	12 Lines	TBBS
JBj Systems PCBoard BBS	412-341-9323	Pittsburgh PA	John Berardelli	2 Lines	PCBoard
PGHSouth PCBoard System	412-563-5416	Pittsburgh PA	Dan Deady	2 lines	PCBoard
The FILE CACHE BBS	414-545-8545	West Allis, WI	Tom Oertel	2 Lines	PCBoard
Exec PC	414-789-4210	Elm Grove, WI	Bob Mahoney	250 Lines	Custom
Canada Remote Systems	416-629-7000	Mississauga Ontario	Jud Newell	108 lines	PCBoard
OTB Communication System	416-844-2483	Oakville, Ontario	David Lowry	2 Lines	TFCNet
ST COM-Link	501-394-1454	Mena AR	Clint McBee	2 lines	Remote Access
Paradox Of Arkansas	501-646-7158	Ft. Smith, AR	Fred Ayers	1 line	WildCat!
The Grapevine	501-753-8121	N Little Rock AR	Jim Wenzel/Greg Wilson	5 lines	PCBoard
Arkansas River Valley	501-968-1931	Russellville, AR	Michael Gray	Single	WildCat!
Electronic Pub Svc	503-624-4966	Portland OR	Brian and Julie Cash	5 lines	TBBS
Random Access Info Net	503-695-3250	Corbett OR	Jeff Clark/Jan Stevens	16 lines	Wildcat!
Southern Star	504-885-5928	Metairie LA	John Sauvestre	3 lines	Maximus
The Garbage Dump	505-294-5675	Albuquerque, NM	Dean M. Kerl	24 Lines	Major BBS
The Albuquerque ROS	505-299-5974	Albuquerque NM	Steven Fox	4 lines	ROS
Construction Net #6	505-662-0659	Los Alamos NM	Pam Trexler	1 line	Opus
PC-ProFile	507-288-6347	Rochester MN	Wayne Evans	3 lines	RBBS
Surfside Connection	508-255-9520	East Orleans MA	R. Fellows & T. Crossman	Single	RBBS
Nordic Enterprises EDMS	508-356-1767	Ipswich MA	David Patterson, PhD	1 line	PCBoard
Software Creations	508-365-2359	Clinton MA	Daniel Linton Jr	3 lines	PCBoard
Midvale Productions	508-430-2956	South Harwich MA	Mike Varner	1 line	SBBS
Xevious BBS	508-875-3618	Framingham MA	Nels J Anderson	4 lines	PCBoard
Xanadu	508-921-2204	Beverly MA	Tony & Greta Taglieri	1 line	Wildcat!
The OpenWindow BBS	508-927-7224	Beverly MA	Mike Riley	2 lines	TPBoard
One Stop PCBoard	509-943-0211	Richland, VA	Gary Hedberg	3 Lines	PCBoard
Turning Point Info	512-219-7828	Austin TX	Paul Tischler	2 lines	TBBS

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CCAT	512-242-2206	Corpus Christi TX	David Burke	1 line	Wildcat!
Law & Order BBS	512-783-5043	Jackson, MI	Chris Bourne	1 line	TAG
MultiSystem TBBS	513-231-7013	Cincinnati, OH	Craig W. Baker	3 Lines	TBBS
To Toche BBS	514-326-8363	Montreal-Nord, Quebec	Patrick Asselin	Single	Maximus
Computer Support Hot-Line	515-246-1353	Des Moines, IA	Robert McVey	2 Lines	PCBoard
America's Suggestion Box	516-471-8606	Ronkonkoma, NY	Joseph G. Jerszynski	4 Lines	TBBS
SOM Premium Info Network	516-536-8723	Oceanside NY	Paul Waldinger	16 Lines	PCBoard
The DarkSide BBS	517-275-4384	Roscommon WI	Scot Andre'	1 line	Maximus
Wolverine	517-695-9952	Midland MI	Rick Rosinski	2 lines	Searchlight
Jackson Area PCUG	517-789-7556	Jackson, MI	Tony Bengel	Single	OPUS
The TIMES	518-452-4757	Albany NY	J Joel & MPaller	19 lines	MBBS
Albany Comp Entertain.	518-479-2051	Rensselaer NY	Mike Gunderloy	10 lines	Major BBS
EPIC Information Systems	519-357-1943	Wingham Ontario	Ernie Johnson	2 lines	PCBoard
The Dark Side BBS	519-608-6560	London, Ontario	Nhan Vu	1 line	WildCat
Ambassador Board	519-925-0025	Shelburne Ontario	Stephen Henry	6 lines	Wildcat!
Knightec BBS	519-940-0007	Orangeville, Ontario	Phil Knight	2 Lines	PCBoard
The Nor'Easter Premium	603-432-6711	Londonderry NH	Gardiner Jones	1 line	PCBoard
AIS Multiline	604-489-4206	Cranbrook BC	Chris Pinnell	2 lines	Major BBS
Cyberstore OIS	604-526-3676	New Westminster BC	Bruce Woodward	15+31X.25	CoCoNet
OVERLINE	604-681-2400	Vancouver, BC	M.McArthur & D. Thompson	8 lines	Major BBS
CompuSpec	604-727-2362	Victoria BC	Ken Polsson	2 lines	PCBoard
CardZ BBS	604/734-5800	Vancouver, BC	John Smith	24 Lines	TBBS
The PROF-BBS	606-269-1565	Lexington, KY	Don Bodley	1 line	WildCat
The Casino	609-561-3377	Pomona NJ	Dave & Gail Schubert	3 lines	PCBoard
KanataCAD BBS	613-831-1449	Kanata, Ontario	David Whynot	1 line	WildCat
The Lebanon Link	615-399-0707	Lebanon TN	B. Richardson & R. Patton	1 line	PCBoard
The PC Junction BBS	615-478-2890	Cleveland TN	Douglas Carpenter	1 line	PC Board
The Evans BBS	616-754-6180	Greenville, MI	Harry Moyles	Single	Maximus
Channel 1	617-354-8873	Cambridge MA	Tess Heder/Brian Miller	60 lines	PCBoard
ABDEX	617-665-0048	Melrose, MA	Ted Fitzmeyer	2 Lines	TBBS
[Parameters]	618-549-8448	Carbondale IL	Robert Pauls	1 line	Wildcat!
HI DESERT BBS	619-247-1816	Apple Valley, CA	Robert Parsons	1 line	WildCat!
Pacific Rim Information	619-278-7361	San Diego CA	Brenda Donovan	4 lines	Fido
BiZynet BBS	619-283-1721	San Diego CA	Chris Gunn	2 lines	QuickBBS
Mushin BBS	619-452-3771	San Diego CA	Brad Chesbro	12 Lines	PCBoard
Classified Connection	619-566-7347	San Diego CA	Bill Kennon	5 lines	Wildcat!
Compu-Tronics BBS	619-630-9011	Vista CA	Mike Fehring	1 line	WildCat
Tech Pro BBS	619-755-7357	Del Mar CA	Albert Gordon	5 lines	Oracomm
City Lites	701-772-5399	Grand Forks ND	John Lundel	4 lines	PCBoard
Public Access	702-383-9939	Las Vegas, NV	Shareware Unltd 900	13 lines	RBBS
Computer Communications	703-264-9698	Reston, VA	Gray Shockley	1 line	RemoteAccess
The Elusive Diamond	703-323-6423	Burke VA	Gregg Snyder	3 lines	RBBS
GLIB	703-578-4542	Arlington VA	Jon Larimore	17 lines	TBBS
The Break (East)	703-680-9269	Dale City VA	Bruce Jackson	2 lines	RBBS
The Big Byte	704-279-2295	Rockwell NC	Tom Curtis	1 line	Searchlight
The Grapevine	707/257-2338	Napa, CA	Dick Wolff	2 Lines	RBBS
CyberSpace	708 336-4426	Waukegan IL	Jim Kloria	2 lines	LSD
Uncle Bob's BBS	708-265-0698	Lake Villa IL	Jerry Witwicki	1 line	Spitfire
COM ONE	708-717-9370	Naperville, IL	Craig Wells	2 Lines	Falken
The Atomic Cafe BBS	713-530-8875	Dallas, TX	David E. Wachenschua	6 Lines	TBBS/TDBS
Software Expressions	713-541-3910	Houston TX	Dennis Lozen	1 line	Maximus
The CAD BBS	714-364-1633	San Juan Capistrano, CA	David Faultersack	1 line	Major BBS
The Cutting Board	714-493-1006	Mission Viejo, CA	Beau Bramlett	1 line	WildCat!
The Locker Room	714-542-5917	Santa Ana, CA	Ed Golka	2 Lines	GAP
the FLASH POINT bbs	714-625-4920	Pomona, CA	Kort V. Pearson	2 Lines	Telegard
The Kandy Shack	714-636-2667	Garden Grove CA	Mike Bernstein	5 lines	PCBoard
Attention to Details	714-681-6221	Mira Loma CA	Clint Bradford	1 line	RyBBS
The Library! BBS	714-780-6365	Riverside, CA	Kim Martin	1 line	WildCat
The Point BBS	715-345-1327	Stevens Point, WI	Tom Lehner	Single	SpitFire
THE PROMISED LAND	715-387-1339	Marshfield, WI	Tim Brown	24 Lines	Major BBS
Rapid River BBS	715-435-3855	Rudolph WI	James Suzda Sr.	1 line	RBBS

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MEMBER BULLETIN BOARDS

The Twilight Zone	715-652-2758	Auburndale WI	John Hrusovszky	2 lines	RBBS
The Byzantine Empire BBS	715-848-2833	Wausau WI	Jeff Frawley Sr	1 line	Wildcat
Pier 1 Exchange	716/875-0283	Buffalo NY	Greg Armenia	2 Lines	GAP
Rural Free Delivery	717-436-2349	Mifflintown PA	Steve Ferrante	1 line	Wildcat!
The Other BBS	717-657-8699	Harrisburg PA	George Peace	4 lines	TBBS
Apartment 2	718-347-1075	Glen Oaks NY	John Rogers	1 line	WWIV
The Consultant	718-837-3236	New York NY	Jay Caplan	1 pub/1 sub	Prologon
GENie Home Off/Small Bus	800-638-8369	Portsmouth, NH	Janet Attard	Zillions	Custom
Rocky Mountain Software	801-963-8721	Salt Lake City UT	Raymond Snow	4 lines	PCBoard
Pee Dee Exchange	803-393-7399	Florence SC	Erwin Reyer	1 line	WWiV
East Bay X-Change	803-556-7485	McClellanville SC	Mike Rattledge	1 pub/1 sub	Remote Access
The B.I.B.S. System	803-577-0545	Charleston SC	Taine Gilliam	1 line	Maximus
Crossroads BBS	803-957-7077	Lexington, SC	William Wingard	1 line	WildCat
Club PC BBS	804-357-0357	Smithfield VA	Jim Kreyling	1 line	GT Power
Windows BBS	804-766-0553	Yorktown VA	John Champion	1 line	Wildcat!
The Blue Ridge Express	804-790-1675	Richmond VA	Webb B Blackman Jr.	23 lines	RBBS
Revelation BBS	805-296-1218	Santa Clarita, CA	Robert Noville	1 line	WWIV
The Computer Station BBS	808-247-7328	Honolulu, HI	Ron Skates	1 line	Isis/Osiris
Digital Dreams BBS	812-421-8011	Evansville, IN	Dave Worley	1 line	Remote Access
"Ya! WebeCad!"	812-428-3870	Evansville IN	Don Habegger	1 line	Wildcat!
Digicom BBS	812-479-1310	Evansville, IN	Gary Barr	5-Lines	RA Pro
The Valley BBS	813-322-2589	Myakka City, FL	Larry L. Daymon	1 Line	PCBoard
Florida Info Exchange	813-349-0355	Sarasota, FL	Bob Marone	1 line	RBBS
Computer Hut's TBBS	813-624-6129	Port Charlotte FL	Gene Davis	3 lines	TBBS
Action-Link Systems	813-747-9295	Bradenton FL	Jim Davie	2 lines	PCBoard
R.B. Enterprises	813-748-5380	Brandenton FL	Bob Brenner	Single	Remote Access
Studio PC	813-862-8850	Port Richey FL	Ralph LoBianco	2 lines	RBBS
At The GIFFer's	813-969-2956	Tampa, FL	Earl Bonser	3 Lines	PCBoard
The Bad Attitude BBS	814-456-6209	Erie PA	Gay Ann Dearbeck	2 lines	Spitfire
DFW SkyNet	817-346-0948	Fort Worth, TX	Manny Mendoza	1 Line	TeleGard
The InfoMall	817-540-5419	Euless, TX	Rick Tyler	2 Lines	RBBS-PC
The Board	818-366-8874	Simi Valley CA	Edward Jeffers	1 line	Wildcat!
The Ledge PCBoard	818-896-2007	Los Angeles, CA	Joseph Sheppard	3 Lines	PCBoard
Synapse BBS	819-561-4321	Gatineau, Quebec	Daniel Coulombe	16 Lines	PCBoard
ATAB BBS	902-435-0751	Dartmouth, Nova Scotia	Donald C. Sheward	Single	RBBS PC
Dr. Sned's RBBS-In-A-Box	904-325-6558	San Mateo FL	Robert F. Snedeker	1 line	RBBS-In-A-Box
WINGIT	904-386-8693	Tallahassee FL	Charlie Yontz	1 line	PCBoard
N4ZDU Super BBS	904-542-3028	Oldtown, FL	Robert L. Gilmore	2 Lines	PCBoard
Toy Shop	904-688-9124	Spring Hill FL	Chuck Curtis	1 line	Remote Access
The Hobbit Hole BBS	904-763-5165	Panama City FL	David W. Blades	1 line	Executive Host
Chances Are!	907-479-8643	Fairbanks AK	KB & Tatia Jones	1 line	Wildcat!
Data-Base BBS	908-735-2185	Annandale NJ	Michael Walter	3 lines	PCBoard
Visions InfoLine	908-769-1779	Plainfield NJ	Jeffrey Morgan	1 line	Wildcat!
Budget Computer Files	912-285-5406	Wareboro, GA	Bruce Kindred	1 line	PCBoard
Hubert Middle School	912-651-7232	Savannah, GA	George Tassey Jr.	1 line	WildCat!
Computer Users Exchange	913-267-1903	Topeka KS	Gary Sykes	1 line	TBBS
<Prism	914-344-0350	Middletown NY	Janis Kracht	2 lines	Maximus
Smart Office Solutions	914-576-6139	New Rochelle	Bob Browne	2 lines	PCBoard
Hudson Valley BBS	914-876-1450	Red Hook NY	John & Richard Perz	1 line	WildCat!
24th St. Exchange	916-451-7179	Sacramento CA	Don Kuhwarth	9 lines	TBBS
The Cheshire Cat	916-542-3088	Zephyr Cove, NV	Sally Kosh	Single	PC Board
ACCESS AMERICA	918/747-2542	Tulsa, OK	V. Martin & L. Hargravga	2 Lines	TBBS
Southern On-line Services	919-945-5593	Lewisville NC	Russell C Jackson	1 line	PCBoard
Seascape! BBS	919/726-9364	Morehead City NC	Arnold Adams	1 line	Wildcat
Ronin BBS	{214}938-2840	Red Oak, TX	Chuck Mattern	1 line	WildCat!
The Crossroads BBS	{312}743-5439	Chicago, IL	John Kristoff	1 line	TELEGard
The Collector's Forum	{619}463-9222 (2400)		Spring Valley, CA	Steven Kirk	4 Lines

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BEST NEW PRODUCT

This category contained nominees from many of the earlier categories. Judges looked for relatively new entries with a lot of promise.

WINNER - SUREFIRE - Peter and Mindy Makuta. Peter and Mindy Makuta of Boulder, Colorado just entered into the shareware world last November with an unusual product. SureFire is a "smart document" processor that combines word processor, database, and spreadsheet into one form. It is NOT an integrated version of the three, but something quite different. You can write a letter, include a little spreadsheet segment, and it will update if you change any of the numbers. It's very different, and possibly very useful. This program is virtually unknown and currently even difficult to find online. We don't think either trait will hold long. **SUREFI.ZIP** contains program files. **SFDOC.ZIP** holds documentation files. **SFCONT.ZIP** is a contact manager example of a smart document. **SFDEMO.ZIP** demonstrates some of the functions of the product.

ICONMASTER - Phillip Kaufman. Iconmaster has become something of a favorite among the Windows crowd to create and edit icons for the Windows desktop. **IMSTR12D.ZIP**.

CHINESE CHECKERS - ImagiSoft. Chinese Checkers is a screen simulation of the popular Chinese Checkers board game. It allows multiple players of course. The presentation is visually impressive, and you don't lose any of the marbles. **CC11.ZIP**.

PAINT SHOP PRO - Robert Voit. Paint Shop Pro allows the user to load graphic images from 14 different file formats including .PCX, .GIF, .WPG, .PIC, .TIF, and others. The images can be cropped, rotated, filtered in a variety of ways, printed, and converted to other formats. Paint Shop Pro is a Windows program and requires Windows to operate. **PSP101.ZIP**.

COSMOS COSMIC ADVENTURE - Apogee Software. A relatively new entry from Apogee, this again is an outstanding game. **#1COSMO.ZIP**.

QUIKMENU - Glenn Tippetts, OSCI Software Development, Inc. What is a list of shareware without a menu pro-

gram for the DOS impaired? QuikMenu performs its function well, with a Windows-type interface that is very well done. You can customize everything from the colors to the font to the arrangement of the icons on your screen. Added utilities include a calculator, calendar, phonebook and log. QuikMenu even allows you to enable a password before programs can be invoked. **QM107C.ZIP**.

BEST OVERALL

The SIA panel decided to present an award to the best overall shareware product. While this could be any shareware program, as chance would have it all nominees for this award were also winners in other categories. This was not by design. The voting process was somewhat in the blind, and it worked out that way - a tribute to the programs themselves. We repeat the descriptions - why turn a page?

WINNER - COMMANDER KEEN SERIES - Apogee Software. The common wisdom in shareware was that you couldn't make money from game software. By the time people had used a game long enough to want to register it, they were tired of the game and had moved on to another. Apogee Software has proven this rule of thumb false by introducing games in a series. The first game in the series is shareware, and you can get the following games by purchasing them at very reasonable prices - typically \$15 each. Each game is quite complete in itself, but so good, it leaves you wanting more. The company is currently doing over 300 registrations per day and some insiders estimate a monthly income in excess of \$300,000. One of the company's finds was another Texas firm, Id Software. Id developed Commander Keen, a space voyager that moves about a screen layered with incredible graphics. The game has become phenomenally popular. Available in the file **#1KEEN.ZIP**.

4DOS - Tom Rawson and Rex Conn of J.P. Software. This program is actually a command processor replacing the DOS COMMAND.COM file and extends DOS by adding about 40 commands you can use at the command line or in batch files. A MOVE command, for example, copies a file from one directory to another and deletes the origi-

nal. We've never been able to figure out why this wasn't in DOS 1.0. The GO-SUB and GOTO functions make batch files much more powerful. A LIST function is a much more powerful replacement for TYPE, allowing forward and backward scrolling etc. This has been a classic utility in everyone's toolbox for a number of years. So much so that Symantec purchased the program for inclusion with the latest version of Norton Utilities - titled NDOS. Widely available in the files 4DOS401D.ZIP (documentation) and 4DOS401P.ZIP (program files).

A86 ASSEMBLER - by Eric Isaacson. Similar to TASM or MASM - allows you to completely write, compile, and use assembly language programs. A86V322.ZIP.

AS-EASY-AS - Trius Software. Paris Karahalios wrote AS-EASY-AS as a clone of the Lotus 123 spreadsheet program (AS-EASY-AS 1-2-3 ostensibly). It has developed a following within the shareware community as a spreadsheet in its own right. Currently available for download in the file ASA501C.ZIP.

Finally, the SIA panel presented an award titled INDUSTRY APPRECIATION AWARD to Bob Wallace, author of PC-Write, for his many years of dedication to the concept of shareware software.

We have dedicated a bit of space to listing these programs. There are currently some 75,000 active files out on bulletin boards. A group of industry pundits got together and somewhat haphazardly selected a handful for the awards. There are many many other programs probably equally deserving, and actually, in one category the ballot was taken four times to arrive at a clear winner among just those nominated. The process is necessarily subjective. But in doing so, the SIA has provided a snapshot thumbnail sketch of what excellent programs are available in the shareware genre. The composite is actually a bit fascinating, and we learned a bit from the process. We've hunted down the entire collection and posted it in a single file directory on the Boardwatch BBS [(303)973-4222] for our BBS subscribers to view in one pass.

The Association of Shareware Professionals last year began accepting applications for affiliated ASP approved BBS systems. As an incidental, BBS members are listed in a database and ASP authors have demonstrated a proclivity to send them shareware programs to distribute via their systems. This works out rather nicely for both parties. Despite a significant membership fee, some 242 BBSs have joined the organization since the group began accepting BBS members. The accompanying table lists all ASP member BBS systems as of June 29th, and is reprinted here with permission.

To join, BBS systems must fill out an application. The result is a particularly good data set of the systems themselves with regard to line count etcetera. We found the market distribution of the various BBS software packages interesting:

TITLE	BBS	SHARE
PCBoard	61	25.2%
Wildcat!	47	19.4%
TBBS	25	10.3%
RBBS	17	7.0%
Major BBS	10	4.1%
Remote Acc	10	4.1%
Spitfire	7	2.9%
Searchlight	5	2.1%
All other	60	

To join the ASP as a member BBS, look for the file ASPBBS.ZIP or call (616)788-5131.

DALLAS

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MACINTOSH BBS NEWS

by Bill Gram-Reefe

VERSION 2.0 FROM FIRST CLASS

Soft Arc has made version 2.0 of its First Class host software available effective July 1st. According to company sources, this new version is a "complete rewrite" of the earlier version adding features that will benefit both users and sysops. In past columns we have covered other Macintosh host software programs - I wish I had a nickel for every time I've seen this phrase - "take full advantage of the Mac's graphical user interface (GUI)" in **TeleFinder** from **Spider Island** and **NovaLink Professional** by **ResNova**. First Class fits right in with multiline operation, customizable folder icons, interline chat, passable TTY command-line and/or ANSI interface, Tabby support for FidoNet, and other excellent features. The new version of First Class, however, provides a startling departure from the mold and provides an important glimpse into the future of Macintosh and BBSing.

In a matter of months, the issues concerning Macintosh BBS host/user software have shifted radically. If you ask "when will there be a Windows version," you'll have to wait for the next bus, because debates over which programs and platforms have implemented the more elegant and easier-to-use GUI, or most Mac-like metaphor are no longer important. I wish I could make it more complex, but I can't. It's real simple. Today, as you read this, the real issue in Mac BBS software, and BBS communications in general, is how well your system, through its host software, supports access to networks.

The two most interesting features touted by First Class 2.0 are its fully-functional Internet gateway and its Gateway Toolkit for third-party developers and authorized value added resellers (VARs). The toolkit is available on a priority basis to "serious" pro-

grammers that want to develop **Quickmail**, **Fax** and **FidoNet** application program interface (API) gateway applications - in that order. And, speaking of networks, instead of hundreds of FidoNet gateways, spokespeople for First Class envision just a couple of big X.400 type, First Class hubs in the states and Europe that can act as gateways to Internet, Usenet and FidoNet for all other First Class systems that wish to link up. And you wonder why the regional Bell operating companies (RBOCs) want to charge hobbyists business rates for BBS phone lines.

From the business end of a host-software publishing company, the "vision thing" is clear. It makes some sense to earmark finite resources for building and supporting centralized, billable, (cellular?) access to big-time T.V. like Internet, Quickmail, Usenet, international long-line and satellite communications, even fax services and online database/inventory searches for online sales. There are priorities, we're told, as more and more corporations, small businesses, professional organizations, publishing companies, service bureaus, research organizations and mammoth educational institutions increasingly use BBS software to support operations and customers with money (techno weenies call 'em "users"). Does this leave FidoNet, Alternet and RIME to the hobbyists, freedom fighters, phone freeqs and kids? Did someone say, "but what about public access?" Open channel D, Max.

First Class 2.0 has many other new features. To better serve sysops, SoftArc overhauled the controls that sysops can use to assign individual and group-user privileges. There is also a revamped automatic backup system, more detailed stats, more forms are printable, and there's now support for **Z-Modem** and **MacBinary** file transfers. Additionally, style and size of text will show up on the user end - color, too, if supported by the remote Mac.

First Class users will enjoy the new file searching capabilities that lets you perform key-word text searches even within files. Mail lists are now available that let you send the same message to a predefined group; this feature even lets you nest other lists into the master. Enhanced file transfer includes the ability

to preview files, and the ability to send and receive files simultaneously and in the background if the remote modem can take it both ways. Improved conference messaging includes full threading (forward and back); thread summaries didn't make it this time around. First Class even added a time remaining window in response to the demand from users and sysops.

Pricing includes free upgrades and complete downward compatibility. 500 users and 5 ports plus the ANSI interface for DOS users runs **\$495**. 1,000 users and support for 9 modem ports with all of the above will run you **\$795**. A starter kit supporting your first 250 users and 2 lines is **\$195**. SoftArc, 805 Middlefield #102, Scarborough, Ontario, Canada M1V-2T9; (416)299-4723 (voice); (416)609-2250 (bbs).

APPLE RELEASES MACX.400

Apple Computer has recently begun selling its **MacX.400** messaging software that supports the OSI X.400 messaging protocol. The software lets Macintosh users send Email to non-Mac users linked to a public or private X.400-compatible network. The company also announced **MacODA**, a file structure for text, graphics and other data that works with the Open Document Architecture (ODA)

INTERNET STUFF FROM APPLE

This just in from **Steve Cisler**, Apple Computer's Librarian: "If any Mac owners want a couple of disks with lots of info on the Internet including guide books, then send a self-addressed label to: Internet Stuff, Apple Library, 10381 Bandley Drive MS8C Cupertino, CA 95014."

MAC TOPICS AT ONE BBS CON

FYI, Apple's **Steve Cisler** will be heading a panel at THE ONE BBSCON entitled *Apple/Mac Tools for Internet*. For more information on this event see the back cover of this magazine. Other Macintosh topics include: Iconic Macintosh BBS Systems, MacConnec-

tivity, Mac BBS File Management, Mac File Distribution Network, Fidonet Alternatives for Mac, and scheduled demonstrations of TeleFinder, NovaLink, and First Class BBS software. Special note of recognition and thanks to Michael Bean, president of the Arizona Macintosh User's Group (AMUG), who was instrumental in organizing the Macintosh track for what would otherwise have been another event dominated by boring DOS types and topics.

BMUG ON BBS

Hot off the press comes a major reference work all Macintosh sysops, wannabes, or network surfers should have on or near their desk. *The BMUG Guide to Bulletin Boards and Beyond* (Guide) is a 546-page compendium covering the wide-open world of BBSing with a Macintosh twist. Expertly written by Bernard Aboba, the reigning chief sysop of the Berkeley Macintosh User Group BBS, Guide is dedicated to making sense of the the online world of BBSing, global networks, and the software and hardware tools you might need to get there and back safely and in a proper frame of mind.

Several neat things about this tome stand out. First, the author graciously offered a nickel (\$.05 U.S.) typo rebate policy for every error found and reported prior to June 1, 1992. Secondly, Aboba includes some original "oral history" from Mac and network oldtimers like Tim Pozar, Leo LaPorte, Vernon Keenan, and Michael Connick, author of Tabby. Each recalls their part and understanding of the development of the EchoMac conference carried on the Fidonet backbone. There is also an interesting history of BMUG's bulletin board that covers its launch in Reese Jones' home to the heady plans for a full blown, world-networked UNIX system. These stories won't make you weepy-eyed but they do give good account of the Macintosh contribution (there is one, you know) to the development of networks and PC-based communications that now serve millions of people around the world. Rah!

The contents of this paperback cover the gamut from basics to arcane. Topics include: terminology, recommended products, primers on how modems and

computers talk to each other, samplers on BBS host and communication software, and capsule descriptions of several BBSs including screen shots of what you'll see when logged on. There are indepth sections on Internet, FidoNet, and other networks including conference lists, Mac nodes, even etiquette. I found the most compelling sections to be the Internet discussions and associated tables, how-to instructions, and "here's what you'll see" snapshots. The product capsules, especially the discussions concerning Macintosh point software products are, in my opinion, less helpful, especially since what I really was looking for was a clear description of how to install Tabby in 200 words or less. Yes, I can spell fat chance.

Send your \$23 now, even if you don't run a Mac or regularly send your phone bill to the eighth dimension. Guide is a helpful, comprehensive effort that won't collect dust on a shelf because you'll be using it. Bernard Aboba, by the way, is the founder of MailCom, a telecommunications consulting, training and publishing firm located in Oakland, CA. Bernard can be reached via Internet electronic mail as aboba@world.std.com, or on America Online as MailCom. For single copy purchases contact BMUG, 1442-A Walnut Street #62, Berkeley, CA 94709, (510)549-2684 voice.

MAC BBS OF THE MONTH

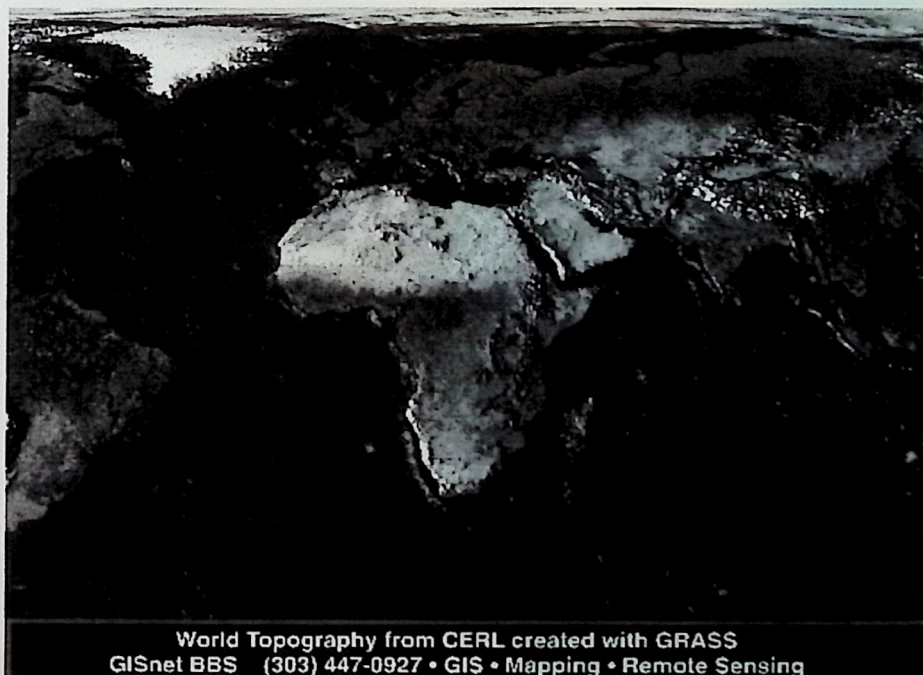
We didn't pick any single Macintosh board this month but provide the accompanying table as a sampler of Mac boards now running one of the new graphics-based host programs available. The listing was compiled from lists supplied by each respective publisher - Spider Island, SoftArc, and ResNova. Check out the board in your area!

[Bill Gram-Reefer, based in Concord, California, is a publicist working with Comstock Communications. He operates *WORLDVIEW BBS* (510) 676-2919 running on a Macintosh computer. As the former editor of *SHOWPAGE* and associate publisher of *Western MicroMarket*, Bill has been writing about Macintosh computers since 1984. - Ed]

DIRECT CONNECT

GISNET BBS

Bill Thoen's profession and interests revolve around Graphics Information Systems. The various earth sciences have undergone a lot of change in the past few years in applying statistical map data to computer generated imaging processes. It's quite natural then that



World Topography from CERL created with GRASS
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MACINTOSH BULLETIN BOARDS

SPIDER BBS (Holland)	Roel Wigboldus	+31-151-47855	14.4	TeleFinder
MiC MAC LiNK (France)	Michel Coste	+33-140-910505	9600 Ultra	TeleFinder
Theseus TeleFinder BBS (France)	Tim Stellery	+33-929-45165		TeleFinder
FrameWORX TF Host	John Woolley	+44-624-663759	38.4 bps v.42bis, MNP	TeleFinder
Mac Exchange BBS (2:203/211)	Mikael Fredriksson	+46-031-948742	9600	TeleFinder
Mastermind BBS (Japan)	Glenn Wright	0292-48-6836	9600	TeleFinder
TransSoft BBS (Belgium)		091-20-49-49		TeleFinder
NJ MacLaw BBS	Stuart Kurtzer	201-235-0121	2400	TeleFinder
The EssexLink BBS	Ed Edell	201-622-5526	9600 Hayes Ultra	TeleFinder
Mac In Time		204-275-5325		First Class
Enterprise	Dewayne Wheaton	205-350-1180	9600 Hayes Ultra	TeleFinder
MacDEBUG		206-937-1398		First Class
Columbia U. MUG	Oliver Jovanovic	212-854-1896	9600	TeleFinder
Glassell Park		213-254-4852		First Class
Illusions		215-584-4756		First Class
Starline		215-635-2341		First Class
Avalon Mac BBS (1:233/14)	Santi Zorzopulos	217-337-0764	2400	TeleFinder
Namia BBS (1:233/11)	Russ Jacobson	217-384-3128	14.4	TeleFinder
Looking Glass		302-995-6040		First Class
MAGIC BBS	Steven Sande	303-791-8732	9600	TeleFinder
MentorNet		303-843-9053		First Class
Shadow Net	Scott Henderson	306-244-3952	14.4	NovaLink
Mikies	Mike Savu	313-477-9652	9600 HST DS	TeleFinder
MacGroup-Detroit BBS	Terry White	313-557-0759	9600	TeleFinder
L'AISON		313-647-2634		First Class
UltraMac		314-965-0119		First Class
Hobby Computer Club	Belgium	32-3-226-9010		First Class
Mactivity International	Belgium	32-80-647363		First Class
AppleGarden BBS	Finland	358- (0)-8057713		First Class
M.O.U.S.E.	Ken Manke	403-430-0774	9600 USR DS	TeleFinder
Mac Asylum BBS	Michael Moore	405-943-6154	2400	TeleFinder
PBMUG BBS	Norm Argus	407-642-6972	9600	TeleFinder
FCKitten		408-245-9104		First Class
AllNet		408-252-2607		First Class
Mac Daze		408-252-6801		First Class
NATTALIA		408-336-5500	9600	TeleFinder
JHUBBS	Johnnie Huang	410-467-7814	2400	TeleFinder
Bayview MUG BBS	Mark Fleming	410-893-9881	9600	TeleFinder
Integrated Network Sys(1:261/1138)	Tim Waire	410-922-7743	14.4 Hayes Ultra	TeleFinder
Mac For The Mind (1:129/120)	Davin Flateau	412-661-6120	14.4 USR HST	TeleFinder
Harrys BBS		415-824-7809		First Class
Forum TeleFinder	Scott Converse	415-948-1349	2400	TeleFinder
OneNet		415-948-1349		First Class
MAGIC		416-288-1767		First Class
(flagship)NYNET		416-512-0964		First Class
SoftArc Online	Business	416-609-2250		First Class
EAGLE Systems		416-737-3053		First Class
TSC		416-886-9679		First Class
CMSI-BBS		416-889-1252		First Class
John Kirchnopf		416-897-0810		First Class
Saved By Technology		416-964-6434		First Class
Klub Kat		418-261-1606		First Class
Club Apple Riki		418-722-8313		First Class
Le Reseau TeleMaque	Jeff Bourdeau	418-867-8396	9600	TeleFinder
AMDA	Austria	43-35262-65370		First Class
Roger Booth Associates	U.K.	44-91-261-5228		First Class
Lindmac BBS	Norway	47-7-965474		First Class
MacOnline Norway	Norway	47-82-17204		First Class
Club Mac of Kentuckiana	Bill Pittman	502-458-7666	2400 & 9600 HST	TeleFinder

MACINTOSH BULLETIN BOARDS

Electronic CMUG.....	Charles Kuttner.....	503-752-4835.....	TeleFinder
The Safe House.....		503-881-1733.....	First Class
GAMER Project BBS.....	Bob Nordling.....	504-467-0574.....	TeleFinder
Sportsline New Orleans.....	Eric Semel.....	504-528-9666.....	9600 HST.....
WMUG BBS (1:322/115).....	Chris Silverberg.....	508-832-5844.....	9600.....
MID COLUMBIA MUG.....	Larry Syerson.....	509-943-6174.....	9600.....
The Peanut Gallery BBS.....	Mike Sugarbaker.....	510-525-6667.....	2400.....
WORLDVIEW BBS.....	Bill Gram-Reefer.....	510-676-2919.....	14.4.....
Maquarium.....		512-469-5823.....	First Class
MAC Exchange.....	Greg Lewis.....	512-658-3212.....	2400.....
Rehabilitation BBS.....	Tom Hinson.....	513-429-4096.....	2400 & 9600 HST.....
Iowa Macintosh BBS.....	Nurudin S. Javeri.....	515-225-0003.....	TeleFinder
Richard P. Spina.....		516-434-3872.....	First Class
[[Macs.....	John Endahl.....	517-655-4605.....	9600.....
MUG News Service.....		518-381-4430.....	First Class
WatRMUG.....		519-888-4781.....	First Class
AMUG (1:114/56).....	Michael Bean.....	602-926-4026.....	9600 Ultra.....
Apple Power.....		603-429-1309.....	First Class
Byte Powerline.....	Rolf Drommer.....	606-738-1302.....	TeleFinder
The Lowlands II BBS.....	Scott Mandell.....	607-256-0824.....	14.4 HST DS.....
Bill & Dans Excellent BBS.....	Bill Short.....	609-497-4833.....	2400.....
Pacific Connection.....	Australia.....	61-(0) 3-826-3731.....	First Class
The Graphics Building.....	Business.....	612-425-5265.....	First Class
Remote Connectivity Lab.....	Mike Harvath.....	612-431-0910.....	TeleFinder
DTP Exchange.....	Chuck Bjorgen.....	612-633-8406.....	9600.....
The Jungle.....		613-233-1474.....	First Class
Mac Universe.....	Omeed Fanaian.....	613-824-1128.....	9600.....
M.O.B. Scene.....	Michael Hale.....	616-364-1968.....	2400.....
Prizm.....	Robert Tutor.....	617-324-7310.....	9600.....
Systems Support Group.....	Business.....	618-549-2005.....	First Class
MACaronil BBS.....	Brian Spence.....	619-592-9026.....	2400.....
Online Solutions.....	Theo McCormick.....	702-324-7720.....	14.4.....
Rick Christianson.....		702-453-7495.....	First Class
ASTEC BBS.....	Rod Paine.....	703-338-6025.....	9600 Hayes Ultra.....
Multum in Parvo.....		703-829-0084.....	First Class
Sailor's Source BBS.....		704-687-1887.....	First Class
Byte Out of the Apple.....		707-747-0306.....	First Class
NCMUG BBS.....	David Fowler.....	707-792-1871.....	9600 Hayes Ultra.....
Beezodogs Place BBS.....	Eric Vann.....	708-668-8287.....	TeleFinder
MacCentre.....	Michael Kellar.....	708-831-1142.....	9600.....
Village Mac.....		714-593-6862.....	First Class
SPIDER ISLAND.....	Rusty Tucker.....	714-730-5785.....	9600.....
R. Bruce Peters.....		716-383-1635.....	First Class
The Veil of Illusion.....	Don Mayer.....	802-496-9330.....	TeleFinder
Beacon Communique.....		805-522-9602.....	First Class
MacMagic.....		805-682-1737.....	First Class
Gooley BBS.....		805-984-2556.....	First Class
BerMUG.....	Bermuda.....	809-292-2405.....	First Class
Florida Online.....	Robert Donahue.....	813-586-2084.....	TeleFinder
Prograph Support.....	Business.....	902-455-6616.....	First Class
TAMU BBS.....	Rodney Hendricks.....	903-597-6560.....	9600 HST.....
Texarkana Apple Byters.....	Greg Saulsburg.....	903-832-6836.....	9600 Hayes Ultra.....
1st Coast BBS.....	Doug ROwe.....	904-388-5275.....	2400.....
Skyline Systems.....		908-888-2080.....	First Class
Leavonworth UG.....		913-682-7153.....	First Class
Sacramento TeleFinder (1:203/932).....	Bill Davies.....	916-452-4844.....	14.4.....
MacNexus Main BBS (1:203/933).....	Craig Wells.....	916-455-3726.....	14.4.....
TUMS.....	David Down.....	918-234-5000.....	9600.....

he would operate a BBS titled GISnet, dedicated to the art and science of visualizing the world using the computer.

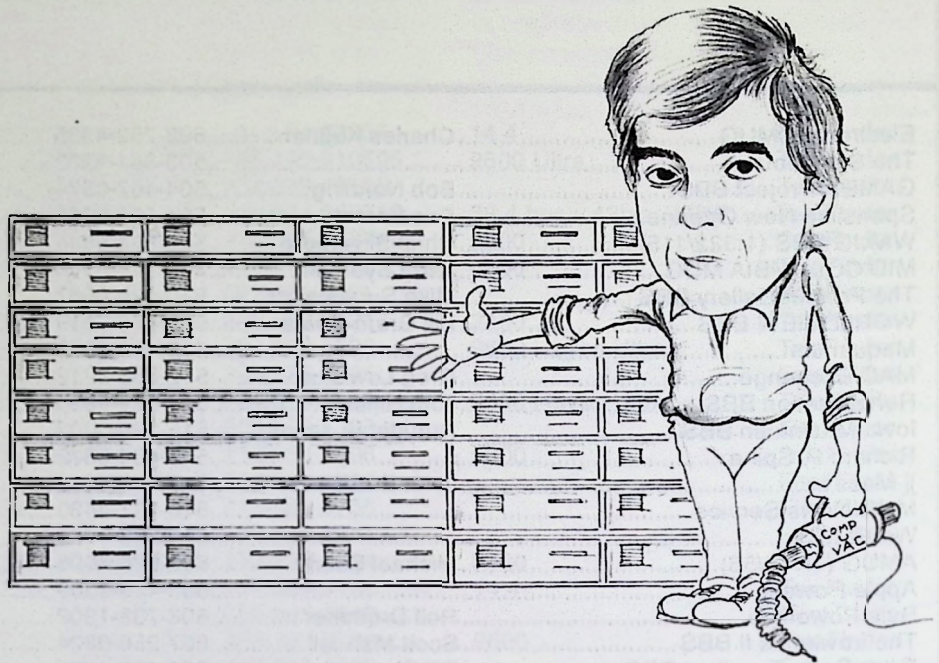
GISnet operates on a Gateway 386/25 using Wildcat! BBS software. A single line system, GISnet sports a V.32 Telebit T1600 modem to support transfer of the often immense data files Graphics Information Systems tend to involve. The first thing you notice in logging onto GISnet is that this guy knows where he's at. The first information you see is the Latitude at 40 01 05 degrees north and longitude of 105 14 11 west. This corresponds to Boulder, Colorado.

One thing we noted immediately is a set of daily weather satellite files showing the western United States weather map as of noon each day. The files are available shortly after 6:00 PM each day. The system is also chock full of GIF images, some of them of incredible detail, of the earth's surface. It also includes a number of other images, some in formats we hadn't heard of before. LANDSAT images for example requiring use of a LANDSAT.EXE program to view. It also carries 3D Digital Elevation Model (DEM) data from the U.S. Geological Survey.

The system also sported some other files. One massive 1.9 MB file contains population data, lat/long, and other information about every populated location/city in the United States. PPLA-GAZ.ZIP. RDWAY30 is a program to calculate distance and driving times between U.S. cities.

The system also features message conferences about GIS and Earth Science topics. The comp.infosystems.gis Usenet Newsgroup is available online and the system shares message bases with the California Division of Mines and Geology BBS as well as the Pre-Cambrian BBS in Arizona.

GISnet illustrates how with a modest collection of hardware and software, an individual can assemble an assortment of information on a single topic and present it cogently online. Subscriptions are \$48 per year. With the growth in GIS systems in general, we think Thoen's GISnet shows a lot of promise. GISnet, 1401 Walnut Street, Suite C, Boulder, CO 80302; (303)447-0927 data.



Dan Linton of Software Creations BBS

SOFTWARE CREATIONS BBS

Dan Linton was a hardware engineer for Prime Computer. He worked on some high resolution graphics stations used in a couple of *Star Trek The Next Generation* series and designed a LAN card sold by the company. In the late '80s he took an interest in the hardware end of personal computers and put several together. He began fielding a lot of questions about LANs and computer hardware by voice telephone. He began looking for a means to handle the questions and still get a bit of dinner down now and again in the evening, and hit on the idea of answering questions on a bulletin board.

His first BBS went online on the first day of January, 1990 using a motherboard he had designed himself. The system ran on a single line at 2400 bps. The BBS soon got the best of him and his hardware projects began to gather dust on the bench as he became immersed in the culture of online communications.

In October of 1990, he expanded the board to five lines and renamed it Software Creations. A friend at Prime Com-

puter was looking for a game for his children similar to a common jigsaw puzzle. Dan wrote his first PC program, titled **Picture Puzzle**, and at Nels Anderson's urging, released it as shareware. The program allows you to make a puzzle out of PCX files. It scrambles the "pieces" and allows you to sort it all out with a mouse. He's since released a series of puzzle graphics sets that go with the program. The modest \$15 registration has resulted in over 2000 registrations at a \$30 average registration fee (users typically order the extra graphics puzzle sets).

A company titled **Sof Source** has picked up the title, along with some other shareware programs, and packaged it attractively at a retail price of \$5.95. The program will be available in hundreds of retail locations such as Walmart, Walgreens, Toys R Us, Penney's and K-Marts nationwide.

Linton has more recently written a fascinating program titled **TRIVIA SHELL** due for release in July '92. The program features up to 600 questions with some stunning graphics - allowing multiple players to compete in answering trivia questions. Registration for the full version will be \$27. The intriguing

thing about this program is the trivia sets. Linton is amassing a pretty good collection with state trivia sets for Maine, Vermont, Rhode Island and other states with fascinating questions about local landmarks and history. One set contains all the questions posed to applicants for Novell's LAN certification program. Linton is already getting inquiries from people wanting to do trivia sets. In theory, you can create a set in a standard word processor and he can compile it. He's offering a royalty of 20% to set authors. Still under consideration is a trivia set compiler that will let anyone create their own.

In March of 92, Linton, with the full encouragement of his wife Ranele, quit his job at Prime Computer to run the BBS and develop shareware full time. Linton's BBS is today a 33 line PCBoard system with 2400 bps lines at (508)365-2359, V.32 lines at (508)368-7036, and 16.8K HST lines at (508)368-4137. The system does require a \$40 registration fee but we found it unusually open for a system this size even for free callers. Callers can browse for 30 minutes and we were surprised to find there were no download limits - even for first time callers. The file areas were superbly stocked with thousands of shareware files.

Further, Linton has no Adult sections and no X-rated files. According to Linton, while he doesn't condemn the practice particularly, he does make a personal choice not to support the distribution of pornography.

Given his laudable avoidance of adult themes, and the wide open nature of his system, we were a little puzzled at how you grow a system to 33 lines in 18 months. The secret seems to revolve around Linton's one-man mission to promote shareware software. He receives support for the system from shareware authors to whom he offers support areas as their "home" board. The largest of these is Apogee Software, distributor of the Commander Keen and Duke Nukem series. But he has or is working on deals with other vendors - including most recently Image Communications for support of their TWIN-COM modem. As such, his system is becoming a point of first release for a number of shareware authors, and a considerable percentage of his caller

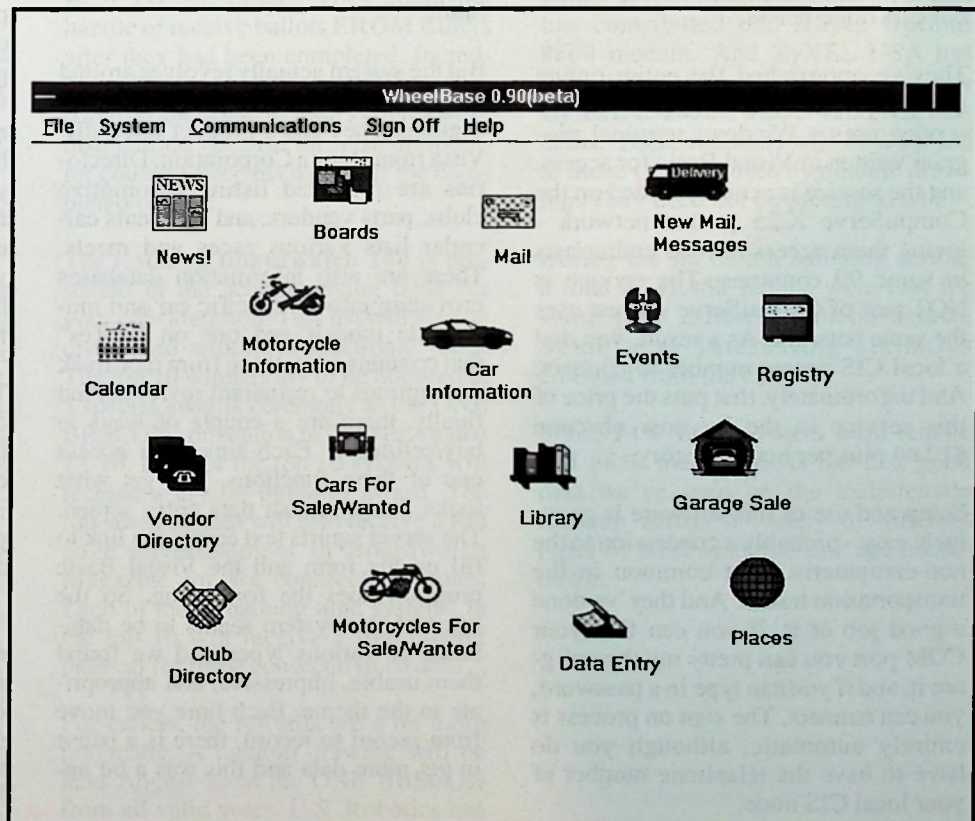
base is other system operators. Quite often, we found his system jammed with callers and were unable to get one of the 33 lines.

The system features a very clean layout, a wealth of file areas, and mail conferences. A quick check we pull on file areas are the assembly language files for example. Assembly language programming areas don't get much attention. Those who program comprise a decreasing percentage of online callers and they tend to gravitate to C language areas, object oriented programming, etc. As a result the ASM library tends to be the first file area to fall to ruin. Even boards that carry assembly language files too often have a dozen or so classics from 1988. As a result, if you find good current ASM files, you'll probably find the rest of the file areas in pretty good shape as well. Linton puts a lot of work into his file areas and it shows. The system sports 6 gigabytes of storage and over a hundred message conferences. This one deserves a look. Software Creations BBS, 26 Harris Street, Clinton, MA 01510; (508)368-8654 voice.

WHEELBASE

Iconic Bulletin Board Systems (IBBS?). It's a term normally associated with Macintosh bulletin boards, but we are beginning to see something very similar with Windows 3.1 in several different packages. Basically, these systems use a very specialized terminal program under Windows to access a remote system. The terminal program is of course a Windows application and so tends toward boxes and icons. Rather than select items from a menu, you click on an icon to access a particular area of the system. We're going to guess this approach will succeed in direct proportion to iconic GUI interfaces such as Windows. And if the nine million copies of Windows on the street means anything, you're going to see a number of them in the future.

And it might be the direction to take it. Prodigy has suffered some success by putting most of the graphics on YOUR machine and transmitting codes to call them up. COCONET, a UNIX system that uses a similar approach, has been getting rave reviews. Both have very proprietary terminal programs. The new breed we're starting to see now is still proprietary, but they rely heavily on a



common Windows infrastructure to handle icons, boxes, drop menus, bar sliders, etc. In all probability, the road to iconic systems for BBS in the future relies on Windows. Given the growing popularity of CompuServe's Graphics Image Format (GIF) for detailed bit-mapped images, we would expect the enhanced graphics of future BBS to be a combination of iconic menus, font text, and GIF images.

Gordon Jennings and Karen Green have been working for over a year that we've been aware of on a new online service titled **WHEELBASE**. Gordon Jennings is to automotive and motorcycle magazines what John C. Dvorak is to computers. He's been around forever and is considered the authority - notably in *Road and Track Magazine* - which is considered the Bible in wheeled things. Recently, he's been making hay by acting as an expert witness at automobile crash lawsuits. Karen Green spent time in PC communications working on airline reservation systems. She also had a weakness for cars and the two met at an auto show. The meeting led to an affair of the heart, and more recently to an entirely new kind of online service. **WHEELBASE** is an online service superbly focused on cars and motorcycles - upscale cars and motorcycles perhaps, but cars nonetheless.

They've approached the entire online rubric as a new thing from the start. The service uses a Windows terminal program written in Visual Basic for access, and the service is actually hosted on the CompuServe X.25 packet network - giving them access to road enthusiasts in some 90 countries. The service is NOT part of CompuServe - it just uses the same network. As a result, you dial a local CIS access number to connect. And unfortunately, that puts the price of this service in the by now obscene \$12.00 plus per hour category.

Setup and use of this software is genuinely easy - probably a concession to the non-computerist bent common in the transportation trades. And they've done a good job of it. If you can find your COM port you can pretty much configure it, and if you can type in a password, you can connect. The sign on process is entirely automatic, although you do have to have the telephone number of your local CIS node.

The screenshot shows a terminal window titled "News!". At the top is a menu bar with "File", "Edit", and "Help". Below the menu bar, the email header shows "To: WheelBase", "From: Steve Anderson", "To Id: AA000A", and "From Id: AA005A". The subject line is "Ducati Four-Valve Desmo Si". The date and time are "05-11-92 16:28:44 PST". The body of the email is dated "Milan, Italy, May 9, 1992" and is titled "DUCATI 500 cc FOUR VALVE DESMO SINGLE SPECIAL REPORT" by "WheelBase Correspondent Bruno de Prato". The text discusses the success of a 500cc single-cylinder sport bike priced well above \$8,000. On the right side of the terminal window, there is a vertical column of icons: a cursor, a trash can, a mailbox, a "SEND" button, a "RECEIVE" button, a "Dialbox" button, and a "SEND" button with a truck icon.

Once the connection is made, you simply click on one of 17 icons arrayed on your screen. The system has most of the things you would expect on an online service, including private e-mail, discussion conferences (boards), and a file area (library). Chat and real time conference functions are planned for the future.

But the system actually revolves around database functions we found quite intriguing. They use a product titled dB-Vista from Raima Corporation. Directories are provided listing automotive clubs, parts vendors, and an events calendar lists various races and meets. There are also information databases providing info on specific car and motorcycle models and one on "places" that contains everything from race track descriptions to restaurant reviews. And finally, there are a couple of ways to buy/sell/trade. Each time you access one of these functions, you get what looks like a fontish data entry screen. The server squirts text across the link to fill up the form and the Visual Basic program does the formatting. So the heart of this system seems to be databases of various types and we found them usable, impressive, and appropriate to the theme. Each time you move from record to record, there is a pause to get more data and this was a bit ag-

gravating with regards to speed. In use, a 9600 bps connection gains you almost nothing over a 2400 bps connection.

One of the most innovative things about this service is post-it notes. Most of the areas of the system feature a little post-it note pad. If you see a listing from a mail order bumper vendor who you've had a poor experience with in the past, you can simply write up a post-it noting the pond scum status and attach it to his vendor listing. Others can too. And everyone can read whatever post-its have been attached to the listing. In this way, you could probably get into raging flame wars entirely by post-it note and entirely centered on some poor yuck who's trying to sell bumpers. The key here is that the post-its are a superb focusing mechanism.

The philosophy of the system seems quite open and free. The operators insist they read no private mail and do not censor at all. Their only real rule is held in the statement: "Our guiding principle, in brief, is this: Don't be a horses ass."

The icon design of this system is quite engaging given the theme. A little windshield wiper icon is used to erase the data entry forms; a U-turn road sign is used to go back a step, there are trucks to get things and trucks to send things. Many of them alter form when you click

them so the transmission icon, for which we never did figure out a purpose, moves the gear shift lever when you click on it.

Windows is supposed to make things easier to use. We haven't found that entirely so, as program features tend to be buried in hard to find places (of course I should have known to click on the W in SoftWare to reconfigure my flavis waven). And this shows up on the Wheelbase system as well. You have to click about a bit to find everything. But the result is pretty, and engaging, and if you are not into "power conferencing" - usable enough. The addition of font text in a variety of sizes IS a big plus.

Wheelbase is currently in a beta test phase, but we still found callers from England discussing motor cycles, and a couple of people who were just a wee bit in need of medication on the topic of Italian sports cars going on about several models. If car enthusiasts get with the program on computers, we think they'll find this system a natural online center of their world. To get the terminal software and an account, contact Wheelbase Corporation, PO Box 3066, Paso Robles, CA 93447; (805)239-8707 voice; (805)239-0855 fax; CIS 76050,3144 e-mail.

BOARDWATCH 100 READERS' CHOICE BBS CONTEST

Final ballots for the **Boardwatch 100 Readers' Choice BBS Contest** were tallied at Midnight, July 1, 1992. The contest, launched in January, 1992, allowed callers to submit ballots nominating their favorite BBS for recognition in a list of the 100 bulletin boards garnering the most nominations.

Numerous systems actively promoted the contest encouraging their callers to submit a ballot on their behalf. The rules were few: ballots had to be some reasonable facsimile of the ballot published in Boardwatch Magazine, and they had to be fully completed to be counted in the tally. Ballots could be submitted by mail, by fax, or electronically on the Boardwatch BBS. BBS operators could

provide any information, preprinted forms, prepaid postage, etc. they desired **TO** the callers. They could not handle or receive ballots **FROM** callers after they had been completed. Incredibly, this latter rule seemed to cause some problem and several systems were disqualified because the system operator couldn't keep his hands off the completed ballots.

The resulting **Boardwatch 100** is presented in the accompanying table for your consideration. This list will also be distributed widely in electronic form. The top 10 winners are to be honored at a special awards ceremony at the ONE BBSCON convention in Denver August 13-16. Each of the top 10 systems will receive a crystal pyramid award. The top voted system will also receive a full page advertisement in Boardwatch Magazine for six consecutive issues. Each of the remaining nine systems in the top 10 will receive a free quarter page ad for three consecutive issues.

For callers, the rewards are a bit more pragmatic. A random drawing will be held August 13 at the ONE BBSCON from all valid votes. U.S. Robotics has

contributed two of their **16.8 kbps USR Courier HST Dual Standard Modems**. Hayes Microcomputer Products has contributed one **Hayes Optima 9600** modem. And ZyXEL USA has contributed two of their 14,400 bps **ZyXEL U-1496E V.32b/42b/FAX** modems. These modems will be awarded to those voters chosen by random drawing. They need not be present to win.

During the six month balloting period, a total of **11,152** ballots were cast for some **1215** different bulletin boards. Some very interesting statistics emerged from the callers.

Some **14%** of the voters were female and **86%** male. This is the first good data we've seen on the male/female makeup across a variety of different types of BBS systems. The age breakdown:

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 **GALACTICOMM**

VOTER AGE BREAKDOWN

Under 18	7.62%
18 to 20	5.24%
21 to 29	24.36%
30 to 39	30.69%
40 to 49	21.57%
50 to 59	6.94%
60 to 69	2.80%
70 plus	0.77%

We were somewhat surprised at nearly 400 voters over the age of 59 years. The movement to bring seniors online seems to be succeeding.

As to modem speed:

VOTER MODEM SPEED

1200 bps or lower	6.31%
2400 bps	59.71%
9600 bps	10.96%
14400 bps	7.46%

Clearly the move from 2400 bps to 9600 bps and higher has some way to go yet and this indicates an enormous market potential for upgrades to higher speeds as the cost of V.32bis modems fall.

One of the questions we found most interesting only appeared on later versions of the ballot and on our online system questionnaire. Of the 2121 ballots received through this means and replying to the question "Did you install a second telephone line to call bulletin boards," a suprisingly high 37% responded yes. Applied to the estimated 10 million BBS callers in the U.S., this indicates a total of 3.7 million second line installations due to BBS activity - or approximately \$666 million dollars annually in local RBOC revenues from second line basic revenues alone - assuming a \$15 per month average line charge.

Long distance was the biggest surprise, and it wasn't actually a question. But we noticed an oddity that bore a bit of sta-

tistical analysis. It seems that 27% of ALL ballots voters cast for their FAVORITE BBS system, was for a BBS with a DIFFERENT area code from their own voice number. Certainly some bulletin boards WITHIN the same area code could still be a long distance call, but we found it surprising that over a quarter of the voters were voting for systems that HAD to be a long distance call. The common wisdom that BBS activity was strictly a local exchange sport would seem to be seriously in question.

The use of communications software was no surprise to us - although we did rather expect one. The information from most PC trade magazines would indicate that Crosstalk owns the communications market outright and products such as Microphone and Mirror are close on their heels. Our data does not support this view and from browsing the occupational data of the voters, we

VOTER COMM PROGRAMS

Procomm	3596	32.25%
Telix	2293	20.56%
Qmodem	1517	13.60%
Telemate	504	4.52%
Crosstalk	182	1.63%
Zterm	171	1.53%
JR Comm	158	1.42%
Bitcomm	134	1.20%
Boyan	113	1.01%
Quick Link	106	0.95%
Smartcom	85	0.76%
Unicom	81	0.73%
Microphone	70	0.63%
Commo	61	0.55%
Flash Link	57	0.51%
White Knight	51	0.46%
GT Power	47	0.42%
Comit	44	0.39%
NComm	44	0.39%
Robocom	43	0.38%
MTEZ	39	0.35%
Proterm	35	0.31%
Windows	33	0.30%
Mirror	30	0.27%
MS Works	27	0.24%
Micro Link	24	0.22%
First Class	22	0.20%
Baud Bandit	21	0.19%
Red Ryder	20	0.18%
Front Door	18	0.16%
All Other	1526	

VOTER MODEM BRANDS

Hayes	1312	11.76%
U.S. Robotics	1268	11.37%
Zoom	661	5.93%
Supra	493	4.42%
Pract Periph	449	4.03%
Cardinal	363	3.26%
Everex	290	2.60%
Packard Bell	258	2.31%
ATI Technol	185	1.66%
Intel	158	1.42%
GVC Technol	144	1.29%
CPI	142	1.27%
Best Data	139	1.25%
Tandy	136	1.22%
Multi-Tech	109	0.98%
CompuDyne	106	0.95%
Viva	104	0.93%
CompuCom	77	0.69%
AMT	76	0.68%
Anchor	74	0.66%
IBM	74	0.66%
Prometheus	71	0.64%
Avatex	60	0.54%
Zoltrix	51	0.46%
Telebit	46	0.41%
Twincom	46	0.41%
Quicktcl	46	0.41%
Infotel	44	0.39%
ZyXEL	43	0.38%
All other	4127	

don't think it is unique to the BBS world. These publications are just spending too much time reading their own ads. The breakdown:

A total of 296 different packages were cited. DataStorm Technologies owns the market for communications software with a 32% share for their PRO-COMM package. Exis, Inc., trails at about 20% with their Telix program, and Mustang Software's Qmodem follows at a bit over 13%. Over 65% of callers use one of these three packages - with the remaining 35% split up among 293 other packages mentioned. Often cited commercial programs such as Crosstalk, Hayes Smartcom, Microphone, and Mirror TOGETHER comprise a scant 3.29% of this market.

The longevity of some badly obsolete packages was quite surprising. For those system operators who constantly field calls from users confused by the Bitcomm software that comes packaged

with nearly every bargain modem in existence, we must report that it appears there is just no way to drive a silver stake through this devil's heart. A total of 134 lost souls are still out there with this one. Most surprisingly, there are 10 faithful people still using Andrew Fleugleman's first shareware (actually freeware) program - PC-Talk. Fleugleman was largely credited with inventing the freeware software distribution method that evolved into shareware with this particular communications program.

Another interesting item came out of the analysis of communications software. We were able in most cases to generally sort out Mac users from IBM users by the title of the software they use. It would appear that some 7.2% of BBS callers use the Apple Macintosh and about 92 % use the IBM compatible platform.

Modem usage was even more varied. Limiting the analysis to BRANDS vice MODELS, we were still left with 379 different modems and 1555 callers who just didn't have a clue what modem they were using.

The top 10 winners represented a surprising cross section of BBS software and types of bulletin boards. Note that the nature of such a popularity contest is such that boards that are able to effectively promote the contest have a distinct advantage. As a result, both Adult chat systems and the gay community did well in the top 10 beyond their statistical representation in the BBS world as a whole. It is simply easier to motivate a group of callers you chat with or see at face-to-face parties than it is to a group who dial in every night to suck up files. Nonetheless, several of our top 10 represented file/mail systems - most notably the winner.

1. CANADA REMOTE SYSTEMS. 462 ballots. (416)629-7000 Canada; (313)963-1905 U.S. Located in Mississauga Ontario, a suburb of Toronto, CRS has had it's ups and downs. Started in the early '80s by Jud Newell, the system went into bankruptcy two years ago and was purchased by Neil Fleming - one of the users. Since that time, Fleming has doubled the line count to 201 incoming lines - making it indisputably the largest PCBoard installation in

the world. CRS is big all around with over 30 gigabytes of file storage, and over 3500 different mail conferences including Usenet News Groups and their own North AmeriNet network. According to Fleming, they currently have over 9000 paid subscribers to the system. The service also offers a rich selection of news services such as UPI news, North American stock quotes, and more.

CRS also sells modems - U.S. Robotics modems almost exclusively. ALL 201 lines feature the new U.S. Robotics 16.8K Courier Dual Standard modems. CRS recently bought a TBBS chat service in Toronto, and also inaugurated an Internet UUCP feed service to systems in the area. Within the past year, they've also opened ten U.S. access lines in Detroit Michigan at (313)963-1905 in an effort to lure callers south of the border who were reluctant to pay the high international telephone charges to reach Canada. They offer hands on "how to use a BBS" seminars in the area, and sponsor their own international mail conferencing network other bulletin boards can participate in.

Canada Remote Systems, 1331 Crestlawn Drive, Unit D, Mississauga, Ontario, Canada L4W 2P9; (416)620-1439 voice.

2. PLEASURE DOME - 416 ballots. (804)490-5878. Tom McKelvey, aka Tom Terrific, has operated Pleasure Dome in Tidewater Virginia since 1985. This six line Wildcat! system is a very popular adult system and very unusual in a number of ways. First, most adult systems tend to be chat oriented, with multiple lines and most of the callers interested in real time conferences where they call in and actually chat to each other by keyboard. Pleasure Dome primarily offers message conferences and adult files.

But it has drawn a loyal following of clientele. A number of women frequent the system, and it has become famous on the east coast as a party board. You may have some difficulty getting a line here. McKelvey has been active among the local system operators and has been involved in discussions with the local telephone company regarding BBS status. Pleasure Dome, PO Box 12126, Norfolk, VA 23502.



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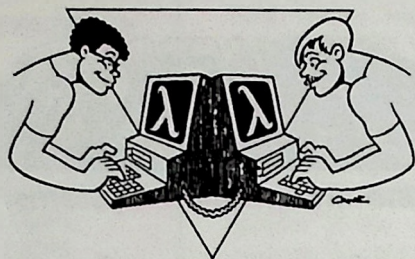
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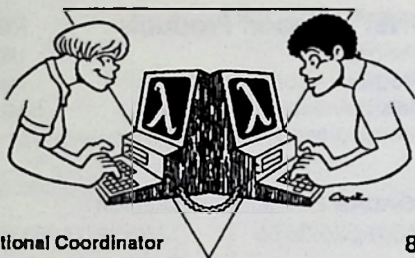
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3. ODYSSEY. 360 ballots. (818)358-6968. Michael Allen's Computer Productions, Inc. operates the largest adult chat system on the west coast - probably in the country. Odyssey sports 128 ports - most of them on the CompuServe X.25 packet network - and uses a highly customized version of Galaticomm's MAJOR BBS software. Starting as a dialup BBS, Odyssey has been on a bit of an Odyssey itself with continuous misadventures in the mystical land of X.25 networks. The results have been innovative and very popular with callers, but have brought the system financially into Chapter 11 where they are scrambling to reorganize. They currently offer one of the best bargains in chat with a flat rate of \$20 per month for unlimited dialing from anywhere in the U.S. They do draw a crowd. But at this point, they are dealing more with banks than callers and the prospects look grim.

The system is enormously popular - over 60 callers at it when we logged in at 4:00 in the afternoon California time. Anne Kettner of Newark Delaware attached a detailed missive to her ballot for Odyssey noting that she logged in daily and soon found an affair of the heart with a gentleman who also fre-

quented the service. After the agonies of the long distance love affair, she was chagrined to find he lived five minutes away from her in Delaware and was ALSO dialing 3000 miles to Monrovia California to chat with her each day. The story apparently had a happy ending and the two now share the same RJ-11 telephone jack in Newark - among other things. Odyssey, 1307 S. Shamrock Ave., Monrovia, CA 91016; (800)947-0936 voice.

4. PC-OHIO. 320 ballots. (216)381-3320. Norm Henke has operated a BBS in Ohio since the days when they were coal powered. He was adamantly a hobbyist and insisted BBSs should be free. He loved his job as PC coordinator for a local community college. He ran PCBoard specifically because it allowed him an excuse to own an entire roomful of computers.

All that changed last year when Norm and his wife Joyce decided to run a BBS as a business and on October 18th, with a houseful of kids and Ian Douglas Henke due to join the family in November, Norm quit his job and became a professional sysop operating PC-Ohio as a subscription service at \$39 per year. His role in supporting PC users at the

community college has simply found a wider audience via his BBS, and he routinely fields questions and assists callers in getting out from under some of the more frustrating vagaries of dealing with PCs. Today, PC-Ohio is one of the most popular systems in the country with 30 lines, 9.6 gigabytes of file storage, and all lines serviced by U.S. Robotics Dual Standard modems. Henke is a charter member of the Cleveland/Akron Sysops Association. The system also sports a very loyal, and voting group of supporters. PC-Ohio, PO Box 21411, Cleveland, OH 44121.

5. ALBUQUERQUE ROS. 260 ballots. (505)299-5974. Steve Fox appears to like to do things the hard way. He has operated Albuquerque ROS since October of 1984. Further, since he didn't care for most of the BBS software he saw, he wrote his own. The entire Remote Operating System (ROS) software used on Albuquerque ROS is his creation.

Actually, Fox originally wrote ROS for the early CP/M machines. The Kaypro support system used his software along with several hundred other CP/M systems. Today, there are still a few systems out there running the IBM version. Albuquerque ROS sports 12 lines, over 2 GB of storage, and some 36,000 files for download. It also features a wealth of online games, including *Trade Wars* and *Global War* - that appear to be quite popular.

The software is colorful, very simple to use for the caller, and seems to have hit the right combination with callers in the New Mexico area. Albuquerque ROS, PO Box 13150, Albuquerque, NM 87192.

6. MICRO MESSAGE SERVICE. 217 ballots. (919)779-6674. Mike Stroud has operated the oldest continually operating BBS in the Raleigh, Durham, Chapel Hill area of North Carolina. He went online in October of 1982 using STUBS BBS software with a whopping 1.5 MB of floppy disk storage and wowed the area a year later by installing a very expensive 5 MB hard disk drive.

As an alpha tester for TBBS, he became one of the very first multiline BBSs in the country a few years later. Today, Micro Message Service sports 5 GB of

file storage and 10 lines in an area of the country notable for being tough to BBS in. As the big gun in North Carolina, Micro Message service supports a variety of computer types including Amiga, Tandy, Commodore, and other oddities in addition to a very well stocked PC/DOS area. A FidoNet system running eSoft's The Bread Board System (TBBS), MMM carries Echomail conferences and Software Distribution Network files. Stroud and his partner Paul O'Keefe, also sell and install TBBS systems and are currently working on a massive 240 line installation for an unnamed software company that wants to support their portal-like operating system with a support board. We'll never tell. Well, we might. Micro Message Service, 1464 Garner Station Blvd., Suite 100, Raleigh, NC 27603

7. SAN DIEGO CONNECTION. 207 ballots. (619)584-8456. San Diego's largest BBS is a DLX chat system running 32 lines. Operated by Rich Famiglietti, Marcus Ogilvie, and Bob O'Berg, the system is an adult chat service. According to O'Berg, much of the discussion recently has centered around current political events. The system runs a unique "bump" concept where if all lines are full and a new caller dials in, the caller on the longest gets "bumped" off. He can dial back in of course and bump someone else. Pretty interesting possibilities here. With a total active base of 1155, the operators claim over 150 of their users call at least once a day. Some 207 thought to cast a ballot on behalf of the system. San Diego Connection, 9943 Felicia Lane, Spring Valley, CA 91977; (619)670-1116 voice.

8. GAY/LESBIAN INFORMATION BUREAU (GLIB). 164 ballots. (703)578-4542. Jon Larimore, Arlington, Virginia. The Gay Community has made good use of the BBS technology and it provides some unique advantages to them. Meeting on bulletin boards is discreet, in fact virtually invisible, allows convenient contact from the comfort of home, and is quite controllable with regards to who joins you and who is excluded. The Gay/Lesbian Information Bureau (GLIB) fills its mission superbly with tons of information, news, and tidbits presented in a very genteel and comfortable manner. The system is strictly for Gays and Lesbians.

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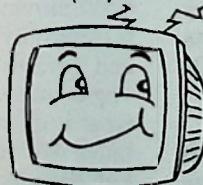
(303)973-6038

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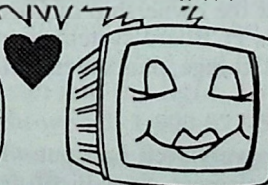
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Using TBBS software, GLIB offers multi-line chat, dozens of topical conferences, and a lot of online information by the way of newsletters, newspapers, etc. A number of areas are actually sysoped by local Gay personalities - they have pretty much their own little clubhouse in their section. The overall effect is of course a little unnerving for straight callers who might happen to stumble in, but obviously quite successful with the Washington D.C. area gay community.

9. STANFORD PALO ALTO COMPUTER EXCHANGE. 149 ballots. (415)323-4193. First established in 1986, the Stanford Palo Alto Computer Exchange (SPACE BBS) has grown to 10 lines under the ownership of Owen Hawkins. This PCBoard system sports 4.2 GB of file storage, plus several CD-ROMS.

The system is very well laid out with some of the clearest, friendliest new user text files we've seen. The system is quite generous to first time callers al-

lowing downloads and other access for a trial period of 60 days. Hawkins has been quite progressive in putting services on the system. It currently is one of the few PCBoard systems in the country to carry Usenet News Groups, and allow callers to send and receive Internet e-mail messages.

The system also carries such services as the Clarinet UPI news feed, daily stock quotations, and a weather report for the area that is updated twice daily. DOOR programs provide access to an impressive computer industry directory database where you can enter a portion of a company name to view telephone number/location contact data. Another database provides information on some 4400 movie/video rentals. The system is ostensibly for computer professionals and "serious" users, a term very much in vogue today although we haven't a clue what it means. Probably roughly translated: We've been having trouble with kid hackers and wish they would go away. In any event, the relatively complete shareware library, extensive mes-

sage conferencing, Internet mail, and some nice information/database touches make SPACE a clear winner. Owen Hawkins, PO Box 260, Menlo Park, CA 94026; (415)323-4193 voice.

10. AFTER HOURS. 147 ballots. (512)448-3562. Located in the heart of Texas at Austin, Conrad Ruchelman's After Hours BBS is a 16-line chat service using Major BBS software. This system is literally fighting callers off with a stick. The operator had revised virtually all the Major BBS default messages to present the most obnoxiously hostile presentation you will likely encounter on a BBS. Worse, the system included a call back verifier function. Call back verifiers are one of the most ridiculous sideshow inventions in the BBS world. Novice BBS operators love the concept, and without exception, no public BBS has ever attained any sustained level of success in using one.

The theory is that if you provide a certain minimum level of free access, callers can use their free time, and when it

lapses, simply login under a different name for more. To stop this, call-back verifiers allow callers to enter the number they are dialing from, and the system calls THEM back to verify that at least they are calling from the number they say they are calling from. This eliminates these multiple accounts and so, in theory, eliminates the problem.

The problem is that callers dialing through a key system or line pool cannot receive such return calls. Further, most such systems don't do call-back verification to long distance callers, and since the operators of these systems are pathologically focused on the perception that all callers are "out to get them", you usually do not have any practical way to get onto such a system when dialing long distance. Routinely, such systems post voice numbers where you can call them to make special arrangements, and just as routinely, these numbers are connected to answering machines. The result is, that for most callers, just getting onto such a system is more trouble than it is worth. If you operate a very selective system and don't want any more callers, call back verifiers are an excellent way to frustrate new callers - although they will spend an inordinate amount of time on your line discovering they are not wanted anyway.

Essentially, a call-back verifier is a sure sign that a system operator is in an adversary relationship with people who dial bulletin boards. It is a weapon designed for use in a telephone war. And it bludgeons the desirable callers who might contribute to a system with the same blind efficiency that it bludgeons the problem callers. Worse, like all weapons, it is a double-edged sword. Problem callers tend to enter the number of the local police department, the governor, the telephone company, etc. as the call back number. Some of the early attempts at call-back verifier software had a little problem in that some callers would enter 911 as the call-back number, and the system would actually dial that. Most of the more recent packages have at least addressed this little problem, after embarrassing a number of BBS operators.

After Hours is of course a chat system. However, we found it somewhat unique. The chat BBS is the sole survi-

vor in the BBS world of the concept of charging for time based on so much money per hour. And most chat services do impose some form of hourly charge to reduce "camping", where callers dial in and just stay online forever. After Hours BBS operates strictly on a flat rate of \$5 monthly with no connect charges.

MORE STATS

A couple of interesting statistics came out of an examination of the 100 winning systems. Line counts have grown in the past few years and the average line count for this group of 100 winners was 20. Even when we throw out the clearly exceptional Canada Remote Systems at 201 lines and EXEC-PC at 230, the average of the remaining systems is still 16.

The BBS software packages selected by this group:

BBS SOFTWARE - TOP 100	
TBBS	24
PCBoard	22
Wildcat!	18
Major BBS	10
DLX	5
Other	22

Again, multiline systems fared better than they seem to in the BBS population as a whole.


We took on this contest administration with the greatest reluctance, and very nearly ALL of our fears were entirely justified by subsequent events. It is an incredible amount of work to track, enter, and account for eleven thousand ballots when the difference between placements in the final list is often a single ballot. Nonetheless, the contest is clearly popular among our readers, the voters, and the BBS operators, many of whom campaigned more or less tirelessly. We had determined that a ballot of 4500 votes was necessary for this to be at all credible and secretly hoped for 7000-7500. The 11,000 plus is clearly an indication that the BBS community desires such an event. We are already

making plans for a contest again next year. We will undoubtedly continue the Reader's Choice Awards.

But we are also planning on drafting a panel of judges to consider nominations and make awards to a series of BBS systems in various type/class categories. This new "judged" contest will provide a balance and contrast to the beauty/popularity contest nature of the Readers' Choice awards. Again, our thanks to sponsors of this year's contest: U.S. Robotics, Hayes Microcomputer Products, and ZyXEL USA. Final drawing for the modems from the ballots received, and presentation of the Boardwatch 100 Readers' Choice TOP 10 Crystal Pyramid Awards will be made at the ONE BBSCON on August 13th. We'll publish the results in a subsequent issue of Boardwatch Magazine.



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BOARDWATCH 100 READERS' CHOICE BBS CONTEST

IN ORDER OF NUMBER OF VOTES RECEIVED BETWEEN JANUARY 1 AND JULY 1, 1992 - 11,152 VOTES CAST

PLACE	TITLE	PHONE	DESCRIPTION	SOFTWARE	LINE	OPERATOR	LOCATION
1	Canada Remote Systems	(416)629-7000	.. Largest PCBoard in North America - 30 GB/3500 Confs/Usenet PCBoard	.....	201	Nell Fleming	Mississauga, Ont
2	Pleasure Dome	(804)490-5878	.. Social/Adult files and discussions	.....	6	Tom McKelvey	Norfolk, VA
3	Odyssey	(818)358-6968	.. Largest Multiline Adult Chat System in U.S.	.....	128	Michael Allen	Monrovia, CA
4	PC-Ohio	(216)381-3320	.. Shareware Library with 5.2 GB of Files	.....	30	Norm Henke	Cleveland, OH
5	Albuquerque ROS	(505)299-5974	.. 36000 Files/Online Games/USA Today/Tradewars	.....	12	Steve Fox	Albuquerque, NM
6	Micro Message Service	(919)779-6574	.. Online since Oct 92/Support for all computers/5 GB	.....	10	Mike Stroud/Paul O'Keefe	Raleigh, NC
7	San Diego Connection	(619)584-8456	.. Adult Multiline Chat - Social/Political Discussions	.....	32	Rich Famiglietti	Spring Valley, CA
8	GLIB	(703)578-4542	.. Gay/Lesbian Information Bureau - Aids Info/News/Weather	.....	10	Jon Larimore	Arlington, VA
9	Stanford Palo Alto Comp Exch	(415)323-4193	.. SPACE - Computer Industry Database - 50000 Shareware Files	.....	10	Owen Hawkins	Menlo Park, CA
10	After Hours	(512)448-3362	.. Obnoxiously unfriendly chat system	.....	16	Conrad Ruchelman	Austin, TX
11	Zen Den Systems	(209)675-8436	.. Emphasis on Film and Greenpeace/Environmental Issues	.....	1	Jack Porter	Madera, CA
12	Lifestyle BBS	(516)689-5390	.. Adult - Member North American Swing Club Association	.....	32	Mark Laffer	Lake Grove, NY
13	Random Access Information Net	(503)695-3250	.. RAIN - Windows/OS/2/Adult Files and Messages	.....	16	Janice Stevens/Greg Skinner	Cobett, OR
14	The Garbage Dump	(505)294-5675	.. Largest System in Albuquerque - Adult Chat/Multiline Games	.....	37	Dean Karl/Simon Clement	Albuquerque, NM
15	Chrysalis	(214)680-4337	.. Connex Matchmaker, Message and File Areas	.....	12	Garry Grosse	Plano, TX
16	The Nashville Exchange	(615)383-0727	.. 4 GB Files/Many Message Areas/Online Games	.....	20	Ben Cunningham	Nashville, TN
17	Echo	(212)989-8411	.. Unix Conferencing System - Call 212-255-3839 for access	.....	14	Stacy Horn	New York, NY
18	Old West	(817)572-4367	.. Old West Theme - 100 Online Games, Bulletins	.....	3	Douglas Rhea	Bedford, TX
19	HH Infonet	(203)738-0342	.. Shareware Library - Excellent Windows File Collection	.....	16	Lee Winsor	New Hartford, CT
20	Titan Software Solutions	(904)476-1270	.. Adult Files/Games/ 3.2GB	.....	6	Clayton Manson	Pensacola, FL
21	Eagle's Nest	(303)933-0701	.. General User's Board - Files - Messages - Games	.....	1	Ron Olsen	Littleton, CO
22	Aquila BBS	(708)820-8344	.. Shareware Library - Excellent Windows Collection - Mail	.....	24	Kevin Behrens/Steve Williams	Aurora, IL
23	Microfone Info Service	(908)494-8666	.. 7 CD ROMS, Active Message Areas, Games, Issues, 5 GB Files	.....	6	John Kelley	Metuchen, NJ
24	Modem Operated Remote Exch	(718)251-9346	.. MORE BBS Games/Adult File Areas/ Cooking	.....	30	Mel Silverman	Brooklyn, NY
25	Studs BBS	(415)495-2929	.. Gay/Homosexual Issues	.....	14	Hans Braun	San Francisco, CA
26	Metro Online	(213)933-4050	.. Large File Libraries/Chat/Mail	.....	60	Dave Harrison	Los Angeles, CA
27	Multicom-4	(716)473-4070	.. Gay/Lesbian/Bi-Sexual Issues	.....	32	Major BBS	Rochester, NY
28	ComputerEdge Online	(619)573-1675	.. Local San Diego Magazine BBS Service	.....	16	.....	San Diego, CA
29	Channel 1	(617)354-8873	.. Large Shareware Library/Mail BBS	.....	80	Brian Miller/Tess Heder	Cambridge, MA
30	ECISD	(915)332-8128	.. Ector County Independent School District Teen Chat Lines	.....	16	Jerry Cooper	Odessa, TX
31	PKWare BBS	(414)354-8670	.. Home of PKZIP archive/compression utility	.....	4	Phil Katz	Brown Deer, WI
32	Atlanta Mac Users Group	(404)447-0845	.. Macintosh Files and Support for Local User Group	.....	5	PCBoard	Atlanta, GA
33	Isles of Shae	(305)321-2410	.. Multiline chat/game system	.....	30	Major BBS	Ft. Lauderdale, FL
34	Twilight Clone	(301)946-8677	.. Large Macintosh File Area - OS/2 Support	.....	19	Paul Hallen	Silver Spring, MD
35	Blue Ridge Express	(804)790-1675	.. Support for Richmond Area User Groups	.....	31	Webb Blackman	Richmond, VA
36	Intimate Visions	(404)244-7059	.. Exploring Sensual Awareness of Our Human Potential	.....	3	Gary Dawson	Decatur, GA
37	Windows Online	(510)736-8343	.. Excellent Windows 3.x Support and Files - Online Newsletter	.....	12	Frank Mahaney	Danville, CA
38	Doppler/Deep Cove	(604)536-5885	.. Multiple PC Support, USA Today, Doppler Computer Centre	.....	16	Wayne Duval	White Rock, BC
39	Index System	(404)924-6472	.. Multiline Chat - Atlanta BBS List - TBBS Support	.....	10	Rodney Aloia	Woodstock, GA
40	Philadelphia Amiga Users Group	(215)551-1485	.. Amiga Support - Files. FidoNet 273/50. Runs on Amiga	.....	4	Joe Mollica	Philadelphia, PA
41	S-TEK	(514)597-2409	.. Gay/Homosexual Issues	.....	7	aka Eric Blair	Montreal, Quebec
42	Valerine BBS	(517)631-3481	.. Official BBS of the Midland Computer Club	.....	4	Rick Rosinski	Midland, MI
43	Idiot Box	(800)354-2983	.. Message Board - Minimal Files - Family Oriented-Serious User	.....	4	Michael White	San Jancinto, CA
44	Eye Contact	(415)703-8200	.. Online Games and Chat - 1.3GB	.....	32	Bill Montgomery	Mill Valley, CA
45	Prime Time	(818)982-7271	.. Entertainment and Online Games - Nationwide Chat Links	.....	16	Bill Martin	Burbank, CA
46	Digicom BBS	(812)479-1310	.. 1.7 GB ASP Approved	.....	3	Gary Barr	Evansville, IN
47	Radio Wave BBS	(609)764-0812	.. Serving Amateur Radio Operators Around the World	.....	1	Tyler Myers	Delran, NJ
48	Comm Post	(303)534-4501	.. Emphasis on Astronomy/Star Data - Good Files	.....	8	Brian Barte	Denver, CO
49	The Source	(310)371-3737	.. File Distribution System	.....	4	Chip North	Lawndale, CA

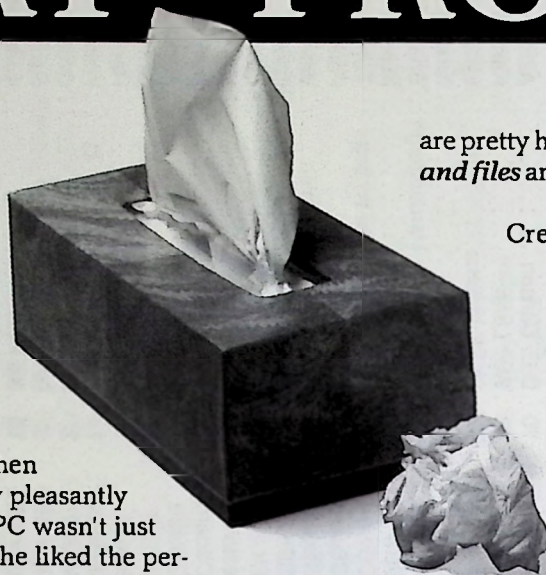
49	Ghouls Lair	(215)862-2088	General Messages, Games - Small System	Major BBS	1	Tim Pettigrew	Newtown, PA
51	Chicago Syslink	(708)622-4442	Home of Ferret Forum Echo - Pet Issues	TBBS	9	George Matyaszek	Berwyn, IL
52	Data Shack	(914)961-7032	TBBS/TBBS Support - DOS/MAC/GIFS/Amiga/Adult Echos	TBBS/TBBS	14	Judah Holstein	Eastchester, NY
52	Nix Pix Windy City	(708)564-1064	Adult GIF Images	Wildcat!	19	Robert Copella	North Brook, IL
54	Higher Powered BBS	(408)737-9447	General Info - no games	PCBoard	3	Bob Jacobson	Sunnyvale, CA
55	Argus Computerized Exchange	(617)674-2345	Restaurant Database - Multiline Adult Chat Service	Major BBS	65	Scott R.	Lexington, MA
56	City Lites	(701)772-5399	Support for Apogee, CHWare, and MSI Software	PCBoard	4	John Lundell	Grand Forks, ND
57	Interludes	(714)828-7092	General Interest Social Chat System	DLX	11	Bill Sobel	Cypress, CA
58	Hollanta	(404)992-5345	Adult Multiline Chat System	DLX	16	Mike and Sheryl	Roswell, GA
58	KBBS	(818)886-0872	Social Networking for the 90s	DLX	32		Canoga Park, CA
58	Data World BBS	(615)675-6994	3.8 GB - 25,000 Files - 20 Doors. Doorway Program	PCBoard	9	Sean Dudley	Knoxville, TN
61	Info Quest	(618)453-8511	Computer Hardware/Software Center catering to Power Users	RBBS	3	Charles Stusz	Carbondale, IL
62	Tampa Matchmaker	(813)961-8665	Matchmaker System on Unix - Usenet News Groups	Unix	14	Bobby Dominguez	Tampa, FL
62	Somerset Central BBS	(908)940-2112	Computer Sales - GIF Images - CD-ROMS - Online Games	TBBS	8	Frank Petillo	Somerset, NJ
62	Ask Fred's BBS	(216)783-9636	11 GB, Featuring MIDI, Games, and Adult Image Files	PCBoard	24	Fred "Hardware" Martin	Boardman, OH
62	Binary Information Network	(201)617-8054	300 Echomail conferences, 33 games, 3.3 GB - Chat	Wildcat!	4	George and Barbara Eppich	Union City, NJ
66	The Drop Zone	(703)425-3644	Multiline General Chat Service	FALKEN	16	Mike Sanders (The Colonel)	Fairfax, VA
66	Lambda Zone	(708)827-3619	Adult, Alternative Lifestyle EBS, Gay, Lesbian, Bi GaycomNet	TBBS	6	Toby Schneider/Gloria La Hay	Park Ridge, IL
68	Electronic Trib	(505)823-7700	Online Service of Albuquerque Tribune Newspaper	Galacticcomm	10	D.E. Carlson	Albuquerque, NM
68	File Shop	(816)587-3311	17.8 GB, 200,000 Files, attractive screens	Wildcat!	12	Walt Lane	Kansas City, MO
68	Starship II BBS	(201)935-1485	Multi-player Games - Shareware Downloads	TBBS	16	Phil Buonomo	Lyndhurst, NJ
71	The Third Eye	(615)227-6155	The Electronic Erotic Magazine	TBBS	4	Mike Vetter	Nashville, TN
71	Rusty & Edies BBS	(216)726-2620	Large File Library - Adult GIF Images/MIDI/Games - 15 GB	PCBoard	124	Rusty & Edie Hardenburgh	Boardman, OH
73	The USA TBBS	(305)599-3004	News, Games, Messages - Entertainment System	TBBS	16	Eric Shore	Miami, FL
73	Godfather	(813)282-0023	Modem News - GIFs/Graphics Utilities	PCBoard	5	Jim Sharer/Kathi Webster	Tampa, FL
75	Cashio PCBoard	(609)561-3377	Tourist Info, RIME network, IBM Files - since 1986	PCBoard	2	Dave Shubert	Panama, NJ
76	Eagle's Nest Communications	(401)732-5292	Friendly Users/Great Message Base/5.5GB - since 1983	PCBoard	5	Mike Labbe/Lea Walsh	Warwick, RI
77	Data-Base BBS	(908)735-2180	Database, Programming/Business/Professional Since 1985	PCBoard	3	Michael Walter	Clinton, NJ
77	Bill N Bob's Place	(216)741-5888	Adult Chat Service - Swingers	DLX	16	Bill - or perhaps Bob	Cleveland, OH
77	EXEC-PC	(414)789-4210	350,000 Files - Largest BBS in America	Custom	230	Bob and Tracy Mahoney	Elm Grove, WI
77	Network East	(301)738-0000	50 Online Games, 1 GB Files, RelayNet, U'NI-net, ILink	PCBoard	12	Howard J. Hartman	Rockville, MD
81	Cajun Clickers BBS	(504)756-9658	Computer Club/DOS Files/ILINK Echo Mail/Games	PCBoard	2	Mike Viera	Baton Rouge, LA
81	MOGUR's EMS	(818)366-1238	8 Mail Networks - Hub Services - CD-ROMS 2.8GB	Wildcat!	5	Tom Tcimpidus	Granada Hills, CA
81	Susquehanna Speedway	(717)652-9291	Adult Message Areas	Wildcat!	1	Dave Mauratic	Harrisburg, PA
81	Computer Confident	(508)528-2295	FidoNet 1:322/594, Maxnet, OurNet, 5 GB Files	Maximus	16	Edward Zdrok (Doctor Z)	Franklin, MA
85	Walden's Puddia BBS	(607)687-6193	Programming files, messages, echomail	Wildcat!	2	Kevin Brokaw	Owego, NY
85	Emerald Palace	(512)561-8150	Entertainment/Chat, Online Games, Nightly Activities	Major BBS	32	Gregory Shaheen	San Antonio, TX
85	Winplus	(206)630-8203	Christian/Family Oriented BBS	Major BBS	10	Bill Ryalls	Kent, WA
85	24th Street Exchange	(916)451-5829	Computer and Modem Users Community since 1983 - ASP BBS	TBBS	16	Don Kuhwarth	Sacramento, CA
85	Locker Room	(714)542-5917	Sports - Fantasy Baseball - "The Sports Page" Newsletter	GAP	1	Ed Golka	Santa Ana, CA
90	BackDoor (Williamsburg)	(804)229-7269	53 Adult Conf - Studnet, Throbnat, Adult GIFs, DOORnet	Wildcat!	1	Fred Whitton/Peter Conway	Williamsburg, VA
90	Quebec Online	(514)935-4257	Public Domain, Shareware, PC/MAC, CD ROM File Collections	TBBS	10	Mark Smith/Danny Parreault	West Mount, Quebec
90	AtlantaCOM BBS	(404)717-9867	Home of Programmers, Analysts, Business Software	Wildcat!	1	Kevin Whitney	Duluth, GA
90	TechTalk BBS	(407)269-5188	Program, Utility Files, Ham Radio, Graphics, Messages	TBBS	4	Jerry Russell	Titusville, FL
90	Ya WeBeCAD	(812)422-9503	AutoCAD - Computer Aided Design Interests 2.9GB	Wildcat!	2	Dan Habegger	Evansville, IN
95	Advanced Data Services	(301)565-9560	5.6GB Files - RIME Network - Computer Sales	PCBoard	23	Henry Prentiss	Fredrick, MD
96	Geneva Convention Adult BBS	(812)284-1321	Adult Image Files and Messages - Erotic Short Stories/Animat	Wildcat!	3	Head Prevert	Clarksville, IN
96	Magic	(416)288-1767	Macintosh Awareness Group in Canada - MAC Support	FirstClass	10	Mark Windrim	Markham, Ontario
96	Texas Talk	(214)497-9100	Friendly Chat/Matchmaker System - Adult Areas	TBBS	32	Sonny Blair	Richardson, TX
99	Wayne's World	(918)665-2711	Tradewars/Solar Realms Online Games	Feathernet	3	Wayne Greer	Tulsa, OK
100	Round Table BBS	(215)678-0818	Autocad/Engineering Files/Numerous Networks - 397 SIGS	PCBoard	5	Dan McCoy/Mike Brown	Wyomissing, PA
100	Radio Daze	(219)256-2255	Ham Radio Discussions - 4.5 GB - ChuckleNET Headquarters	Wildcat!	4	Michael Shannon	Mishawaka, IN

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- "XNews" — an on-line news group BBS
- System transaction logging and accounting
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BOARDWATCH LIST OF BBS LIST KEEPERS

BBS LIST TOPIC	LIST AUTHOR/EDITOR	CONTACT BBS	TELEPHONE
Republic of South Africa.....	Henk Wolsink.....	Catalyst BBS.....	(041)34-1122
Darwin National BBS List.....	Meade Frierson.....	USBBS Update Line.....	(202)547-3037
BBS With Handicapped Focus.....	Bill McGarry.....	Handicap News BBS.....	(203)337-1607
Seattle AC 206/West Washington.....	Bob Dinse/Nanook.....	Eskimo North.....	(206)367-3837
Autocad Related BBS.....	Jason Osgood.....	Alacrity BBS.....	(206)643-5477
Kitsap County Washington.....	Michael Schuyler.....	Quicksilver BBS.....	(206)780-2011
Maine BBS.....	Eric Rodzen.....	MaineNET BBS.....	(207)767-1273
Astronomy/Space BBS.....	John Pickens.....	Starbase III BBS.....	(209)432-2487
Central California AC 209.....	Jack Porter/Madera UG.....	Zen Den Systems.....	(209)675-8436
NY/NJ/CT/PA/DE.....	David Shapiro.....	Network One BBS.....	(212)628-5486
Graphical User Interface BBS.....	Mike Hefferman.....	The Gooney (GUI) BBS.....	(212)876-5885
Southern California.....	Ken Sukimoto.....	SOCAL Corner.....	(213)422-7942
96 List - 9600+bps BBS.....	Phil Eschallier.....	Downtown BBS.....	(213)484-0260
Open Access UNIX Site List.....	Ron Brandt.....	LGNP1 (login:BBS).....	(215)348-9727
Area Code 215 PA and 609 NJ.....	Eric Rickin.....	Satalink BBS.....	(215)364-3324
Cleveland Area 216.....	Stan Staten.....	Wine Cellar.....	(216)382-2558
Ham/Amateur Radio BBS.....	Richard Barth.....	3WINKs BBS.....	(301)590-9629
Handicapped Issues BBS.....	Phillip Bailey.....	HEX BBS.....	(301)593-7357
Baltimore Area 301.....	Frank Atlee.....	Baltimore BBS News.....	(301)633-7870
Desktop Publishing BBS.....	D.Wendling/JS Christianso.....	Infinite Perspective.....	(301)924-0398
Conservation/Nature BBS List.....	Edward Del Grosso.....	Osprey's Nest.....	(301)989-9036
al Issues BBS.....	Bob Voorhees.....	Black Bag.....	(302)731-1998
Denver Colorado AC 303.....	Eric Thav.....	Professional System.....	(303)740-2223
South Florida Area 305/407.....	Horst Mann.....	Silicon Beach BBS.....	(305)474-6512
Detroit Area 313.....	Bob Ostrander.....	Tony's Corner.....	(313)754-1131
ASP BBS Member List.....	Arthur Petrzela.....	PBS-BBS.....	(317)856-2087
Engineering Related BBS.....	Mike Labbe.....	Computer Plumber.....	(319)337-6723
Rhode Island Area 401.....	Online Atlanta Society.....	Eagle's Nest.....	(401)732-5292
Atlanta Area 404.....	Rodney Aloia.....	OASIS.....	(404)627-2662
Atlanta Area 404.....	Matt Drury.....	INDEX System.....	(404)924-8472
Orlando Florida AC 407.....	Jay Jadofsky.....	London BBS.....	(407)423-5226
Milwaukee Area 414.....	Bob Underdown.....	Priplanus.....	(414)442-0170
Arkansas Area 501.....	Lisa Gronke.....	The Gaslight BBS.....	(501)444-8420
Portland Oregon BBS.....	Jeff Jones.....	DawGone Disgusted.....	(503)297-9145
New Orleans BBS List.....	Julie McGrew.....	Southern Star BBS.....	(504)885-5928
San Francisco Area 408/415/510.....	Michael Allen Menoskey.....	Bay List BBS.....	(510)339-1045
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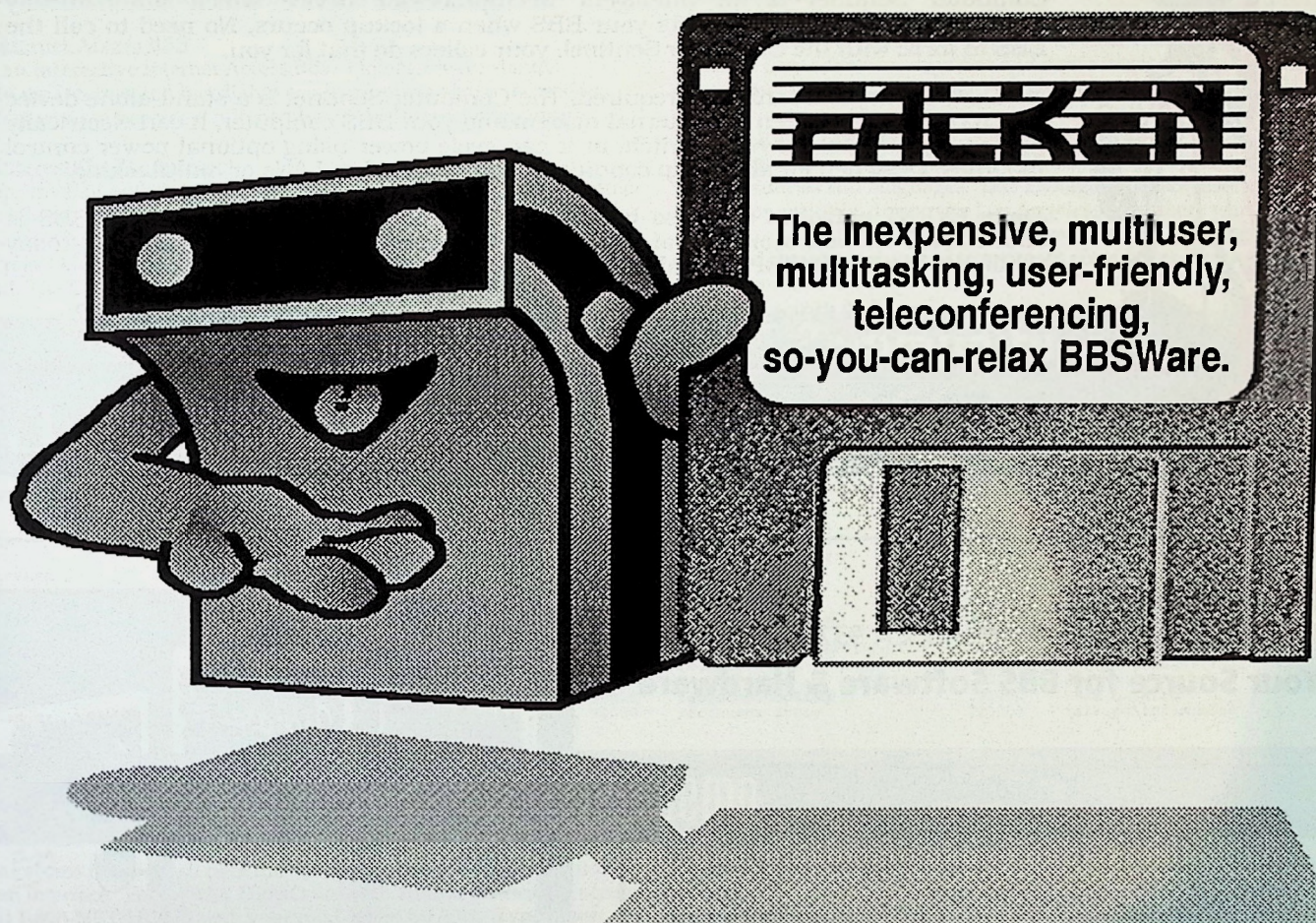
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Multi-User Dungeons are one of the most popular activities on the Internet. In some MUDs people simply chat and interact with computer personalities; in others they adventure together and battle fierce monsters; Some systems even allow players to create their own artifacts and areas for others to enjoy.

Internet Relay Conference

IRC is the world's largest Real-Time Discussion. People communicate from many countries and languages. IRC averages over 450 user on-line day and night. For example, during the Los Angeles Riots, there were several IRC conferences about the riots. Internet members from Los Angeles typed in and discussed the latest news and eyewitness accounts as they happened with people around the world.

And the Global USENET Community

USENET is a network of millions of people who post and read over 35MB of articles (news) a day on over 2,500 topics (news groups). In addition to the regular conversation, megabytes of pictures and programs are regularly posted.

News Group	Readers	News Group	Readers
alt.activism	98000	comp.databases	95000
alt.bbs	73000	comp.dcom.modems	80000
alt.bbs.internet	61000	comp.graphics	130000
alt.binaries.pictures.erotica	130000	comp.lang.c++	130000
alt.folklore.computers	66000	comp.sys.ibm.pc.hardware	110000
alt.personals	90000	comp.sys.mac.announce	89000
alt.rock-n-roll	79000	comp.virus	53000
alt.romance	69000	comp.windows.ms	100000
alt.sex	260000	comp.windows.x	130000
alt.sources	130000	misc.consumers.house	65000
comp.binaries.ibm.pc	120000	misc.forsale	230000
comp.binaries.mac	89000	misc.invest	70000

USENET news is quickly distributed on the Internet most articles reach HoloNet in hours. A sample of newsgroups with their estimated number of readers is shown below (from Arbitron statistics):

News Group	Readers	News Group	Readers
misc.jobs.offered	250000	rec.music.cd	58000
misc.jobs.resumes	98000	rec.pets	52000
misc.kids	64000	rec.sport.baseball	50000
misc.legal	83000	rec.travel	110000
misc.wanted	120000	sci.electronics	100000
rec.arts.erotica	190000	sci.space	94000
rec.arts.movies	110000	soc.culture.indian	120000
rec.arts.startrek.info	65000	soc.culture.japan	65000
rec.autos	86000	soc.singles	94000
rec.aviation	52000	soc.women	78000
rec.food.cooking	75000	talk.bizarre	120000
rec.humor.funny	220000	talk.politics.misc	90000

Free Demo

HoloNet has access numbers all over the nation and features an easy to use menu driven interface. For a **FREE DEMO** just call! To find the nearest access number call 1-800-NET-HOLO with your modem set for 8N1. Type *return* until the system responds. Or call direct to our headquarters in Berkeley, California: 510-704-1058

We think you'll find HoloNet an easy way to become a part of the growing global electronic community. Chances are you'll be surprised at how easy it to make is to find people across the world with similar interests.

Other HoloNet services include:

Online Publications - USA Today Decisionline, Newsbytes, Datanet Computer News, Eeeekbits, and Boardwatch Magazine.

Single and Multi-player Games - Board, card, fantasy, and puzzle games.

And there's more coming soon. We are continually enhancing and adding services to HoloNet.

HoloNet Membership And Connect Rates

HoloNet membership is only \$6.00 a month which is applied towards your connect charges. HoloNet connect charges are \$2.00/hour off-peak and \$4.00/hour peak plus network access surcharges.

There is an additional charge for data transfer in excess of 1 MB/hour: \$1.00 off-peak and \$2.00 peak per MB.

An annual membership is just \$60.00 – you save \$12.00!

Hourly Network Access Surcharges

Service	Area	Cities	Off-Peak	Peak	Peak Periods
HoloPacket	Berkeley, California	1	\$0.00	\$0.00	M-F 8am-5pm PT
	San Francisco Bay Area	4	\$0.50	\$0.95	Except holidays
PSINet	Class-A	30	\$0.95	\$1.95	M-F 8am-6pm ET
	Class-B	120+	\$2.50	\$6.00	M-F 8am-8pm ET
Internet	Global	-	\$0.00	\$0.00	-

For those who would prefer not to dial direct to Berkeley, California, HoloNet provides alternative access methods, such as PSINet Class-A, and charges a network access surcharge in addition to the regular connect charges. HoloPacket supports high-speed access at speeds up to 14,400 bps with MNP-5 and V.42bis. PSINet supports access at 300, 1200, and 2400 bps. HoloNet Peak: M-F 8am-5pm except holidays.

You can reach Information Access Technologies, Inc. at: 46 Shattuck Square Suite 11, Berkeley, CA 94704, Voice: 510-704-0160, Fax: 510-704-8019

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HoloNet[™]
From Information Access Technologies, Inc.

BOARDWATCH MAGAZINE

LIST OF BBS SOFTWARE VENDOR PRODUCT SUPPORT/DEMO BULLETIN BOARD SYSTEMS - SEPTEMBER 1992

PRODUCT	COMPANY	BBS PHONE	NOTES	VOICE	MAILING ADDRESS
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IBM/DOS

DCI.....	Nordevald Software	(813)961-0788	DOS.....		POB 280138, Tampa, FL 33682
DLX.....	Inner Loop Software /Baudtown	(818)893-7600	Multiline - 32 lines - excellent chat/social system.	(818)893-2321	17939 Chatsworth St. #192, Granada Hills, CA 91344
Falken.....	Info*Share	(703)803-8000	DOS/Multiline-16 lines-runs ext programs		P.O. Box 1501, Woodbridge, VA 22193
Fido.....	Tom Jennings	(415)863-2739	DOS/Single Line - Original Fido BBS Software	(415)861-7183	Box 77731, San Francisco, CA 94107
FSUUCP.....	Chris Ambler, Fubar Systems	(805)543-8227	Internet/UNIX Communications for DOS machines		1742 Lima Drive, San Luis Obispo, CA 93405
GAF.....	GAP Development Co.	(714)493-3819	DOS/LAN 99 Nodes - Fast ISAM Searches		24242 Porto Fino, Laguna Niguel, CA 92677
Genesis BBS.....	Carter Downer	(315)592-7300	DOS/LAN - Multinode - Flexible Doors		Box 267, Hannibal, NY 13074
InfoHost.....	A-Comm Electronics Inc.	(201)288-7792	DOS/Multiline - Database	(201)288-7885	377 Route 17 South, Hasbrouck Heights, NJ 07604
Kitten.....	System Enhancement Assoc.	(201)473-1991	DOS/Single Line - also SEADog FidoNet Mail Program	(201)473-5153	21 New Street, Wayne, NJ 07470
Major BBS.....	Galaccomm, Inc.	(305)583-7808	DOS/Multiline - 255 lines-chat-multituser games	1 (305)583-5990	4101 SW 47th Ave #101, Ft Lauderdale, FL 33314
Maxihost.....	Don Mankin	(209)836-2402	DOS/Single Line - Small, Easy to Fun		231 Market Place, San Ramon, CA 94583
Opus-CBCS.....	Opus-CBCS Development	(412)366-5208	FidoNet compatible BBS - multi-node.	(412)364-4017	8024 Crest Road, Pittsburgh, PA 15237
Oracomm.....	Surf Computer Services	(619)346-1608	DOS/Multiline - 32 lines - social chat	(619)346-9430	71-540 Gardess Rd., Rancho Mirage, CA 92270
Osiris.....	Micro Tech	(314)334-6369	DOS/LAN Multinode 256 lines - Online Store	(314)335-5384	Cape Girardeau, MO 63701
PCBoard.....	Clark Development Company	(801)261-8976	DOS/LAN-99 Nodes-Popular BBS for shareware BBS	(800)356-1686	PO Box 7135, Murray, UT 84107
QuickBBS.....	Creighton/Gabriowitz	(407)896-0494	DOS/Single Line - Shareware clone of TBBS		POB 678255, Orlando, FL 32867
RBBS.....	Ken Gossens	(703)978-6360	DOS/LAN Multinode - Free - BASIC Source Avail	(703)978-4339	5020 Portsmouth Rd., Fairfax, VA 22032
Sapphire.....	Tim Campbell/Pinnacle Soft	(514)345-8854	Easy Installation and Setup - Single Line Package	(514)345-9578	Box 714 Airport Road, Swanton, VT 05488
Searchlight.....	Searchlight Software	(516)689-2566	DOS/LAN - Multinode - Visual and easy to use	(516)751-2966	PO Box 640, Stony Brook, NY 11790
Spiffire.....	Mike Woltz	(515)225-8496	DOS Single Line		913 39th St., WDes Moines, IA 50265
TAG.....	Paul Williams	(313)582-6671	Support for TAG BBS Software		Dearborn, MI
TBBS.....	eSoft Inc.	(303)699-8222	DOS/Multiline - 64 lines per machine - good database	(303)699-6565	19200 E Girard Ave # 2550, Aurora, CO 80014
Tritel.....	Mark Goodman	(207)941-0805	DOS Multi-Node - Fido capable - offline mail		PO Box 187, Orland, ME 04472
UFGATE.....	Tim Pozar	(415)695-0759	Utility to Import/Export Usenet News from Unix Systems	(415)695-7727	671 28th St., San Francisco, CA 94131
Wildcat!.....	Mustang Software	(805)399-0650	DOS/LAN/250 Nodes - Very good on LAN installations	(805)395-0223	3125 19th St Ste 162, Bakersfield, CA 93301
WWIV.....	Wayne Bell	(213)208-6689	DOS/Single Line - C source available with registration		904 Silver Spur Rd. #636, Rolling Hills Est, CA 90274

APPLE/MACINTOSH

Proline.....	pro-sol/Morgan Davis	(619)670-5379	Apple II/GS - Unix lookalike BBS - Usenet News	(619)670-0563	10079 Nuerto Ln, Rancho San Diego, CA 92078
First Class.....	SoftArc, Inc.	(416)609-2250	Multiline Macintosh BBS Package	(416)299-4723	805 Middlefield Road, Ste. 102, Scarborough Ontario,
Hermes.....	Frank Price/AOC Software Inc.	(213)275-6975	MAC - Multiline BBS for Macintosh - Very good		612 Doheny Road, Beverly Hills, CA 90210
Mansion.....	Michael Pester, Software	(515)279-6769	Macintosh BBS package	(515)276-9650	PO Box 12016, Des Moines, IA 50312
Novalink Pro.....	Len Anderson - ResNova Soft	(714)840-8641	24-Line Mac BBS Package - Graphics/VT-100	(714)840-6082	16458 BolsaChica Street St 193, Huntington Bch, CA
Sight.....	Scott Watson, FreeSoft Co.	(412)846-5312	Single Line BBS Software for Macintosh	(412)846-2700	105 McKinley Road, Beaver Falls, PA 15010
Tabby.....	Michael E. Conrick	(201)988-0706	MAC - FidoNet Mail Interface for Macintosh		PO Box 307, Bradley Beach, NJ 07720
Telefinder.....	Rusty Tucker, Spider Island Soft	(714)730-5785	Multiline Macintosh BBS - up to 20 lines	(714)669-9260	4790 Irvine Blvd. Ste.105-347, Irvine, CA 92720

UNIX

CocoNet.....	Coconut Computing, Inc.	(619)456-0815	Unix - Hires Graphics like Prodigy - term program	(619)456-2002	7946 Ivanhoe Ave Ste 303, La Jolla, CA 92037
TEAMate.....	MMB Development Corp.	(213)318-5302	Unix/Multiline - VT100 ANSI Graphics	(800)832-6022	904 Manhattan Ave., Manhattan Beach, CA 90266
XChange.....	Z/Max Computer Solutions Inc.	(315)635-1947	Unix - Pull Down Menus/Pop-up Windows	(315)635-1882	8287 Loop Road, Baldwinville, NY 13027
Maggie.....	Sieve Manes	(212)420-0527	DOS/UNIX Conferencing Software with unique threading	(212)533-1692	648 Broadway, Ste 300, New York, NY 10012
WAFFLE.....	Darkside International	(408)245-7726	DOS/UNIX - Provides UUCP function for DOS machines		PO Box 4436, Mountain View, CA 94040

OS/2

Magnum BBS.....	Chuck Gilmore	(818)706-9805	OS/2/LAN-8 Lines per computer - looks like PCBoard	(818)706-9800	1285 Falling Star Ave., Thousand Oaks, CA 91362
Maximus-CBCS.....	Scott Dudley	(613)389-8315	FidoNet compatible BBS - multi-node		777 Downing Street, Kingston Ontario, Canada K7M 5
Multi-Net.....	Multi-Net Communications	(503)883-8197	Multi-Line OS/2 BES Package	(503)883-8099	15702 Black Bear Ct., Klamath Falls, OR 97601

WINDOWS

PowerBBS.....	Russel Frey	(516)822-7396	Runs under Windows 3.1	(516)938-0506	35 Fox Ct., Hicksville, NY 11801
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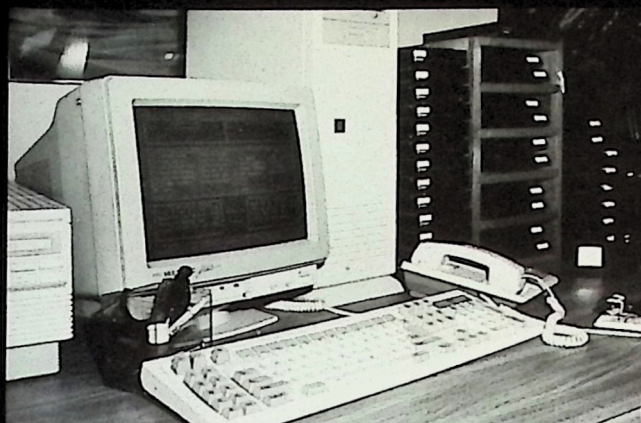
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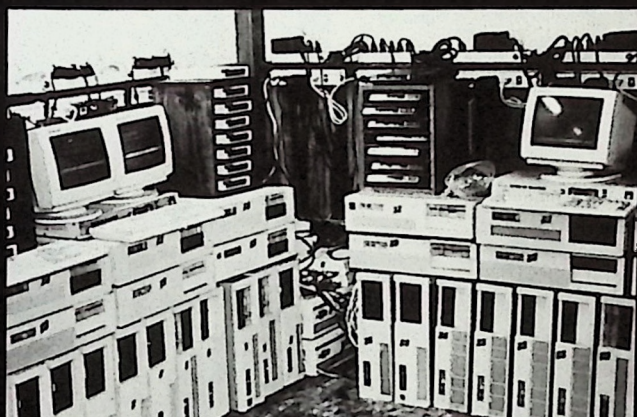
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